

BookletChart™

Sacramento and San Joaquin Rivers

NOAA Chart 18661

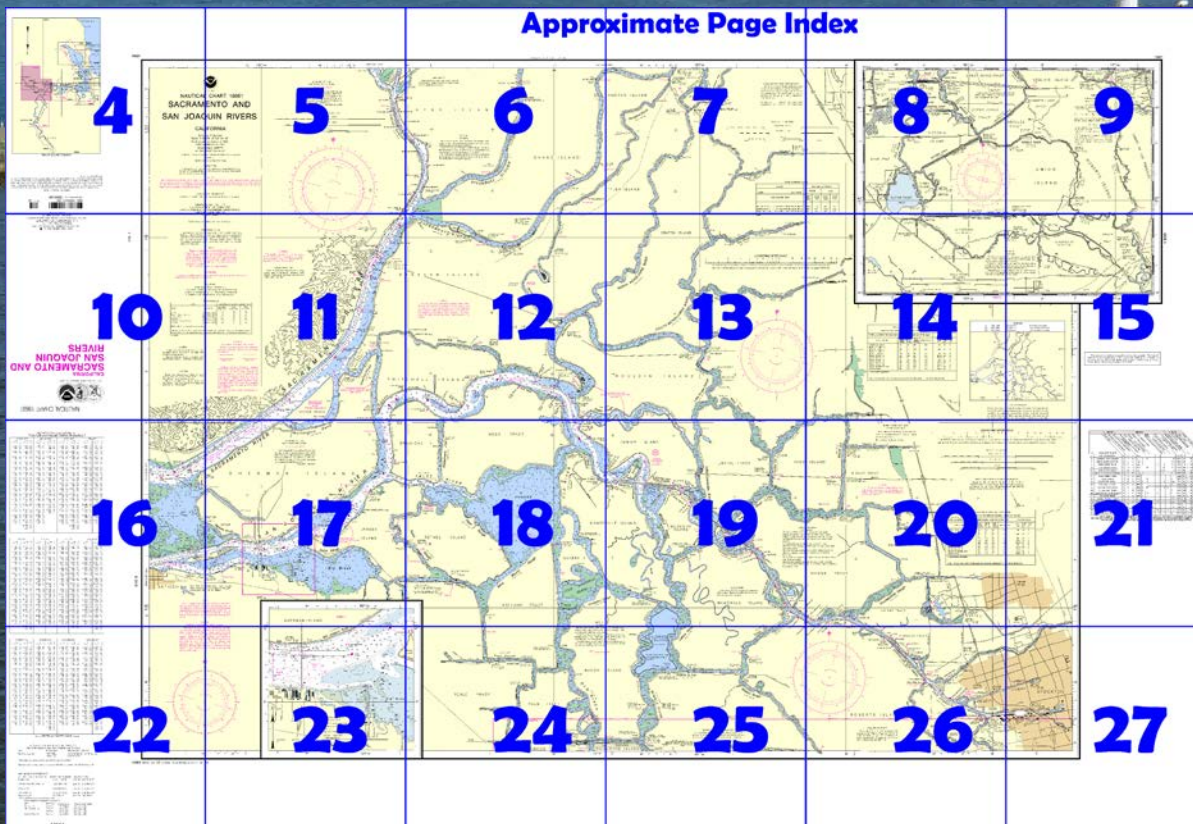


A reduced-scale NOAA nautical chart for small boaters

When possible, use the full-size NOAA chart for navigation.



- Complete, reduced-scale nautical chart
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- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA's Office of Coast Survey, the nation's chartmaker



Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
888-990-NOAA

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <http://www.NauticalCharts.NOAA.gov>.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

For latest Coast Pilot excerpt visit the Office of Coast Survey website at <http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=18661>.



(Selected Excerpts from Coast Pilot)

The **Delta Region**, the combined deltas of the San Joaquin and Sacramento Rivers, comprises the feeder rivers, sloughs, and canals that directly or indirectly connect with one or both of the rivers. Hundreds of miles of navigable waterways for small boats are available in the Delta; both local and visiting small craft use these waterways extensively.

San Joaquin River rises in the Sierra Nevada, flows 275 miles in a W direction, and enters Suisun Bay through **New York Slough**. The winding river is navigable for deep-draft vessels to Stockton. The water is generally fresh

at Antioch. The delta of the river is formed of many marshy islands intersected by sloughs and channels. The islands are reclaimed tule and cattail marshes which have been converted to agriculture. Bordering the river are levees that are 12 feet or more higher than the land behind them.

A **Federal project** provides for a 35-foot channel from the mouth of the San Joaquin River to a turning basin at Stockton, and for suitable passing and turning basins. (See Notice to Mariners and latest editions of charts for controlling depths.)

Anchorage.—General and explosives anchorages are in the San Joaquin River on the W side of Sherman Island near the mouth, and just N of Venice Cut between Mandeville Island and Venice Island. (See **110.1 and 110.224**, chapter 2, for limits and regulations.)

There are small-craft facilities on the S side of San Joaquin River on both sides of Antioch Bridge. (See the small-craft facilities tabulation on chart 18661 for services and supplies available.)

Pilotage, San Joaquin River.—River pilots, commissioned by the Port of Stockton, are obtained by ship's agents, through the office of the Port of Stockton, or the San Francisco Bar Pilots.

Threemile Slough, meets the San Joaquin River 5.8 miles above Antioch Bridge and joins the Sacramento River at the N end of Decker Island. The slough is a route frequently used by tugs and barges making passage between Sacramento and Stockton. Near the junction with the Sacramento River is a highway lift bridge with clearances of 16 feet down and 110 feet up at low water. The bridgetender monitors VHF-FM channel 16 and works on channel 9; call sign KMJ-385, Threemile Slough Bridge. (See **117.1 through 117.49**, chapter 2, for drawbridge regs.)

Anchorage.—A **restricted anchorage area** is along the E side of **Decker Island**. (See **162.205**, chapter 2, for limits and regulations.)

Sacramento River rises in the Trinity Mountains in N central California, flows S for 325 miles, and enters Suisun Bay on the N side of **Sherman Island**. Deep-draft vessels follow the lower Sacramento River to **Cache Slough**, 1.5 miles above Rio Vista Bridge, thence through a deepwater ship channel to Sacramento, a distance of 37 miles above the mouth of the river. Barges and other small craft also use Sacramento River all the way to Sacramento, a distance of 50 miles. Above Sacramento, small craft go to Colusa, 125 miles above the mouth, but there is no regular navigation above this point.

Cable ferry.—Steamboat Slough enters Cache Slough about 1.8 miles above Rio Vista bridge. A cable ferry crosses the Steamboat Slough about 5 miles above the junction with Cache Slough. The ferry operates 24 hours daily. When the ferry is underway, the cable is suspended below the water surface at varying depths. When the ferry is docked, the cable is about 5 feet below the surface of the water. Warning signs are posted at the crossing. When underway, the ferry shows flashing red lights. **DO NOT ATTEMPT TO PASS A MOVING CABLE FERRY.**

Pilotage, Sacramento River.—River pilots, commissioned by the Port of Sacramento, are arranged for by the ship's agents, but may be obtained through the the port of Sacramento or the San Francisco Bar Pilots.

Rio Vista is on the NW bank 10.5 miles above the mouth of the Sacramento River. The **Rio Vista Coast Guard Station** is just S of the town. A small-craft harbor on the S side of the town has gasoline, diesel fuel, water, and berths available. A 20 ton lift here can handle craft up to 40 feet for hull and engine repairs. A large dredging facility is on the NW side of the river just N of the Rio Vista Bridge.

U.S. Coast Guard Rescue Coordination Center

24 hour Regional Contact for Emergencies

RCC Alameda


Commander

11th CG District

Alameda, CA

(510) 437-3700

Table of Selected Chart Notes

 Pump-out facilities

Numerous uncharted snags and obstructions exist in this tract.

HEIGHTS

Heights in feet above Mean High Water.

Mercator Projection
Scale 1:40,000 at Lat. 38° 25'
North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

NOTE C

CONTROLLING DEPTHS

Mean lower low water

SAN JOAQUIN RIVER

3 feet from the junction of Stockton Channel to Mossdale Bridge. June 1970

MIDDLE RIVER

6 feet to the Borden Highway Bridge. June 1966

Middle River was reported not navigable from the Borden Highway Bridge to junction with Old River. July 1966

OLD RIVER

10 feet from the mouth of the river to the east end of Grant Line Canal.

7 feet from the Grant Line Canal to Holly Sugar Factory.

5 feet from Grant Line Canal to the head of Old River in San Joaquin River. June 1970
The Corps of Engineers, Sacramento, California, should be consulted for changing conditions to the above.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U. S. Coast Guard Light List and U. S. Coast Pilot for details.

CABLE FERRY

Cable across the river may be at or near the water surface. Mariners should exercise caution when navigating in this area.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

All craft should avoid areas where the skin divers' flag, a red square with a diagonal white stripe, is displayed.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

CABLE FERRY

Cable across the river may be at or near the water surface. Mariners should exercise caution when navigating in this area.

CAUTION

Small craft should stay clear of large commercial and government vessels even if small craft have the right-of-way.

Note. The river between West I. and the south shore contains many submerged mooring piles approximately even with the bottom.

SACRAMENTO RIVER DEEP WATER SHIP CHANNEL

162.205 (see note A)

Controlling depth for a width of 200 feet was 26.0 feet from the channel entrance (38°03'46.7"N, 121°51'17"W) to Lt. '40', thence 27.6 feet to Lt. '52', thence 30.9 feet to Lt. '60', thence 27.5 feet to Lt. '70', thence 18.4 feet to Lt '86' and 29.4 feet in the turning basin at West Sacramento.
May 2005 - May 2006

CABLE FERRY

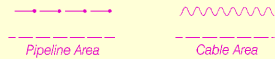
Cable across the river may be at or near the water surface. Mariners should exercise caution when navigating in this area.

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

CAUTION

SUBMARINE PIPELINES AND CABLES

Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:



Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling.

Covered weirs may be marked by lighted or unlighted buoys.

SACRAMENTO RIVER DEEP WATER SHIP CHANNEL

162.205 (see note A)

Controlling depth for a width of 200 feet was 26.0 feet from the channel entrance (38°03'46.7"N, 121°51'17"W) to Lt. '40', thence 27.6 feet to Lt. '52', thence 30.9 feet to Lt. '60', thence 27.5 feet to Lt. '70', thence 18.4 feet to Lt '86' and 29.4 feet in the turning basin at West Sacramento.
May 2005 - May 2006

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

For Symbols and Abbreviations see Chart No. 1.

NOAA WEATHER RADIO BROADCASTS

The NOAA Weather Radio stations listed below provide continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Mt. Pisce, CA KHB-49 162.40 MHz WX2
Sacramento, CA KEC-57 162.55 MHz WX1

NOTE B

CAUTION

Mariners are warned that numerous uncharted piles, snags, pumps, pipes and wrecks, some submerged, may exist along the edges of the waterway.

Numerous buoys and signs mark the wing dams along the Sacramento River. Mariners should never attempt to pass between the warning buoys and the shore.

The backwaters, sloughs and cuts are not maintained by the Corps of Engineers and numerous uncharted shoals and obstructions have been reported.

NOTE C

The U.S. Coast Guard operates a mandatory Vessel Traffic Services (VTS) system in the San Francisco Bay and surrounding areas. Vessel operating procedures and designated radiotelephone frequencies are published in 33 CFR 161, the U.S. Coast Pilot, and/or the VTS User's Manual. The entire area of the chart falls within the Vessel Traffic Services (VTS) system.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 11th Coast Guard District in Alameda, California or at the office of the District Engineer, Corps of Engineers in Sacramento, California.

Refer to charted regulation section numbers.

NOTE B

CAUTION

Mariners are warned that numerous uncharted piles, snags, pumps, pipes and wrecks, some submerged, may exist along the edges of the waterway.

Numerous buoys and signs mark the wing dams along the Sacramento River. Mariners should never attempt to pass between the warning buoys and the shore.

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Mariners are warned that numerous uncharted piles, snags, pumps, pipes and wrecks, some submerged, may exist along the edges of the waterway.

Numerous buoys and signs mark the wing dams along the Sacramento River. Mariners should never attempt to pass between the warning buoys and the shore.

The backwaters, sloughs and cuts are not maintained by the Corps of Engineers and numerous uncharted shoals and obstructions have been reported.

CAUTION

WARNING CONCERNING LARGE VESSELS

The Rules of the Road state that recreational boats shall not impede the passage of a vessel that can navigate only within a narrow channel or fairway. Large vessels may appear to move slowly due to their large size but actually transit at speeds in excess of 12 knots, requiring a great distance in which to maneuver or stop. A large vessel's superstructure may block the wind with the result that sailboats and sailboards may unexpectedly find themselves unable to maneuver. Bow and stern waves can be hazardous to small vessels. Large vessels may not be able to see small craft close to their bows.

NOTE C

The U.S. Coast Guard operates a mandatory Vessel Traffic Services (VTS) system in the San Francisco Bay and surrounding areas. Vessel operating procedures and designated radiotelephone frequencies are published in 33 CFR 161, the U.S. Coast Pilot, and/or the VTS User's Manual. The entire area of the chart falls within the Vessel Traffic Services (VTS) system.

CAUTION

BASCULE BRIDGE CLEARANCES

For bascule bridges, whose spans do not open to a full upright or vertical position, unlimited vertical clearance is not available for the entire charted horizontal clearance.

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RULES OF THE ROAD (ABRIDGED)

Motorless craft have the right-of-way in most cases. Sailing vessels and motorboats less than sixty-five feet in length, shall not hamper, in a narrow channel, the safe passage of a vessel which can navigate only inside that channel. A motorboat being overtaken has the right-of-way. Motorboats approaching head to head or nearly so should pass port to port. When motorboats approach each other at right angles or obliquely, the boat on the right has the right-of-way in most cases. Motorboats must keep to the right in narrow channels, when safe and practicable. Mariners are urged to become familiar with the complete text of the Rules of the Road in U. S. Coast Guard publication "Navigation Rules."

BRIDGE AND OVERHEAD CABLE CLEARANCES

Clearances are charted as furnished by the Corps of Engineers and U. S. Coast Guard. Overhead cable clearances are referred to high water. Bridge clearances are referred to High Water (HW) and Low Water (LW).

SOURCE DIAGRAM

The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

HORIZONTAL DATUM

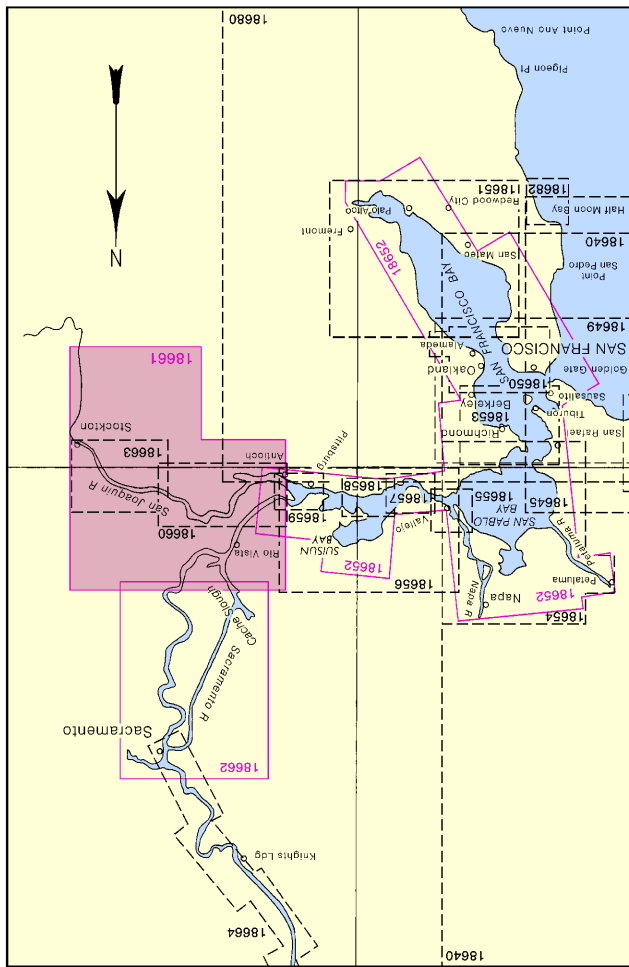
The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83) and for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.270" southward and 3.821" westward to agree with this chart.

AUTHORITIES

Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.


FACILITIES

Locations of public marine facilities are shown by large magenta numbers with leaders and refer to the facility tabulation.



NAUTICAL CHART DIAGRAM

18661



NAUTICAL CHART SACRAMENTO SAN JOAQUIN CALIFORNIA

Mercator Projection
Scale 1:40,000 at Lat. 38° 10'
North American Datum of 1983 (World Geodetic System 1984)

**SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER**

Additional information can be obtained at www.noaa.gov

HEIGHTS
Heights in feet above Mean High Water

AUTHORITIES
Hydrography and topography by the National Oceanic and Atmospheric Administration, U.S. Coast Survey, and U.S. Coast Guard.

CAUTION
This chart has been corrected from the Notice to Mariners (NM) published by the U.S. Coast Guard and the Local Notice to Mariners (LNM) issued periodically by each of the U.S. Coast Guard Districts. Chart updates corrected from Notice to Mariners hand corner are available at nauticalcharts.noaa.gov.

SUPPLEMENTAL INFORMATION
Consult U. S. Coast Pilot 7 for important supplements.

Published at Washington, D. C.
U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

For Symbols and Abbreviations see U.S. Coast Pilot 7

HORIZONTAL DATUM
The horizontal reference datum of this chart is the North American Datum of 1983 (NAD 83) and for charting purposes is equivalent to the World Geodetic System 1984 (WGS 84). Positions referred to the North American Datum of 1983 are corrected an average of 0.270" southward and agree with this chart.

NOTE A
Navigation regulations are published in the U.S. Coast Pilot 7. Additions or revisions to the regulations are published in the Notice to Mariners. Information regarding regulations may be obtained at the Office of the District Engineer, U.S. Coast Guard, 11th Coast Guard District in Alameda, California.

SIDE A

Joins page 10

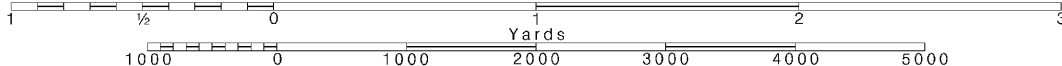
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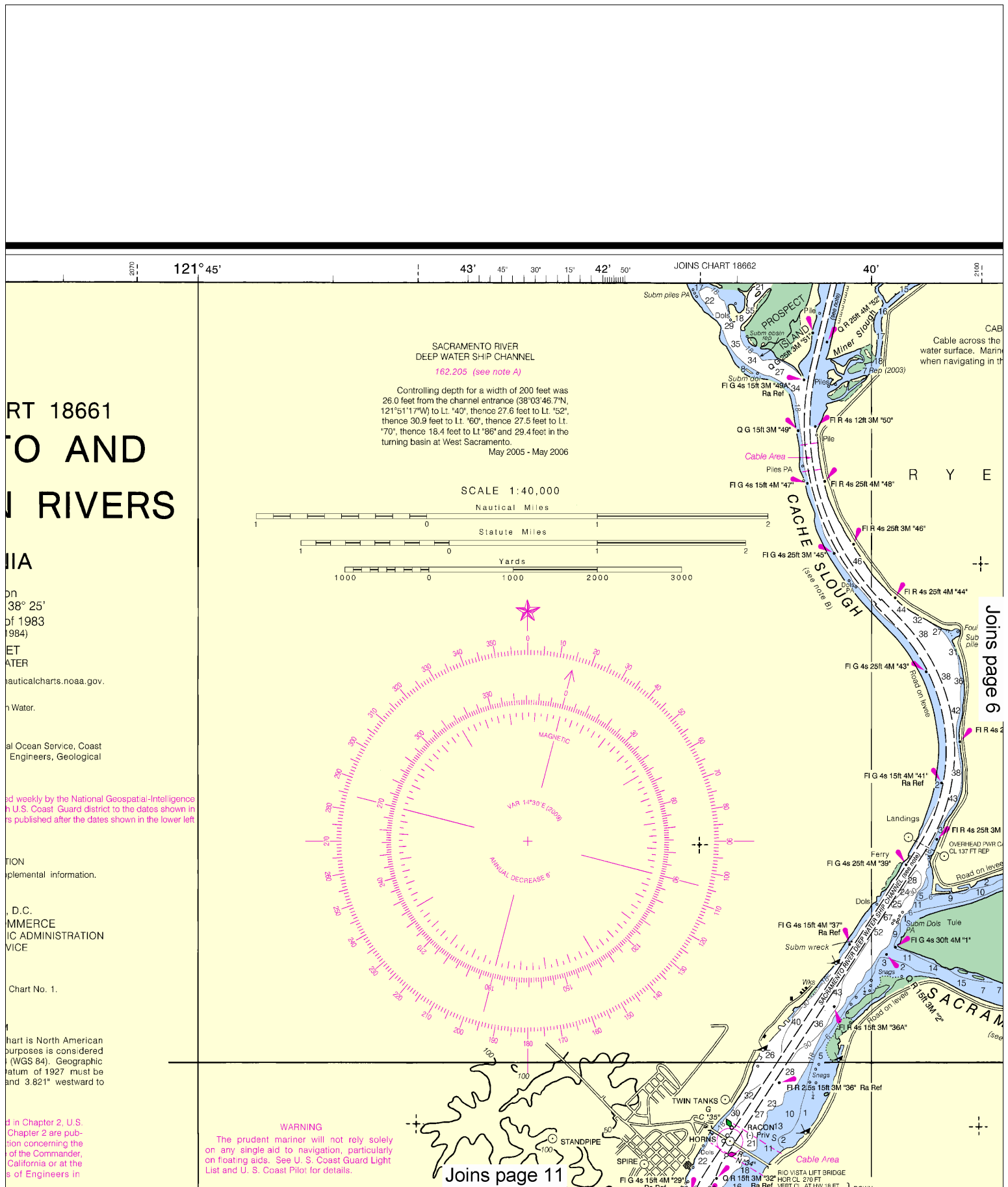
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

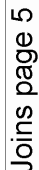
SCALE 1:40,000
Nautical Miles

See Note on page 5.



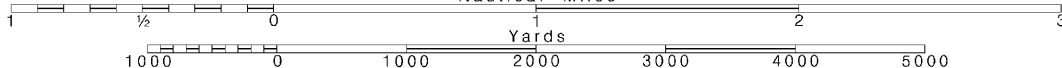


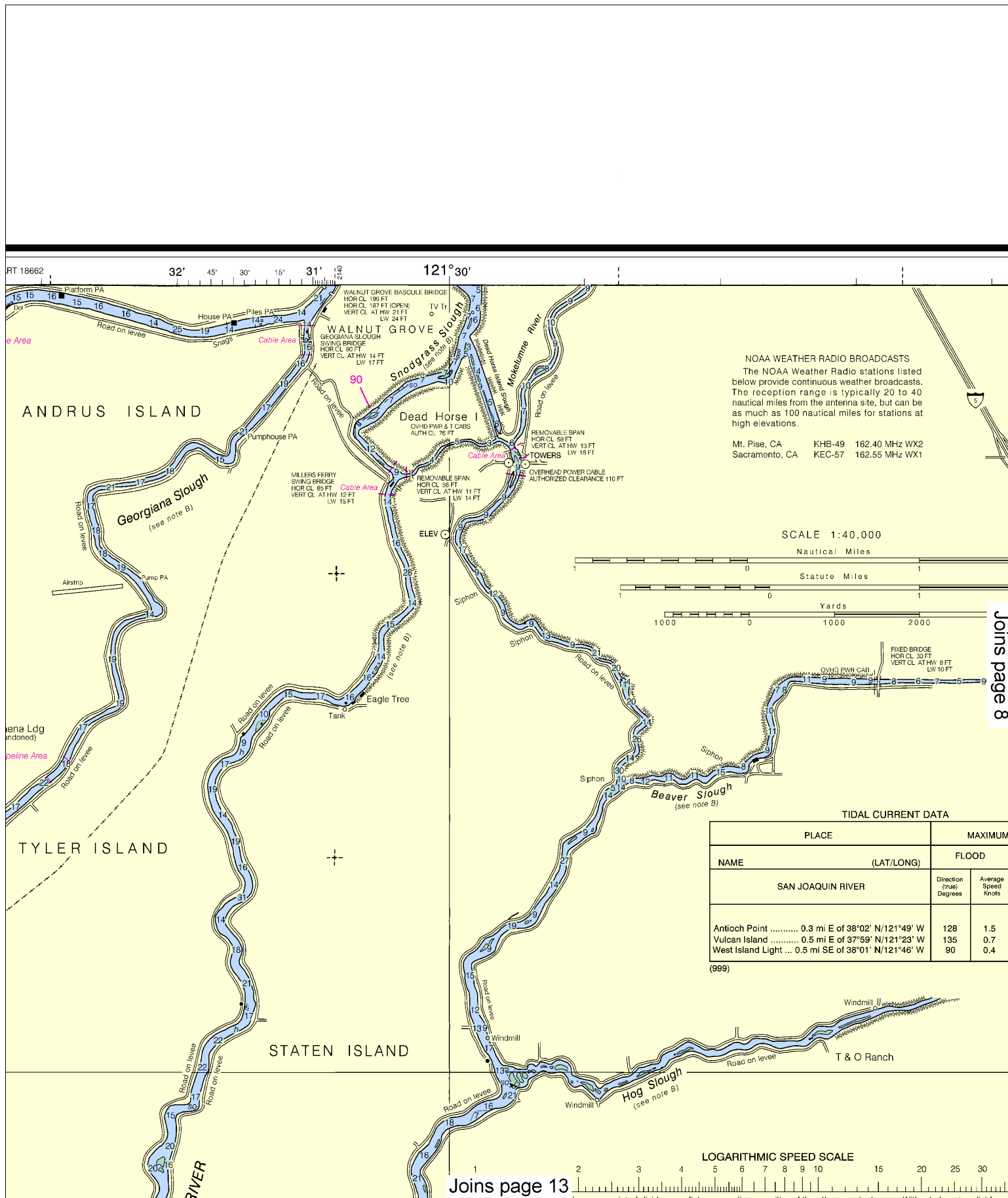
This BookletChart was reduced to 75% of the original chart scale.
The new scale is 1:53333. Barscales have also been reduced and
are accurate when used to measure distances in this BookletChart.



Printed at reduced scale.

See Note on page 5.





WEATHER RADIO BROADCASTS
Weather Radio stations listed
continuous weather broadcasts.
range is typically 20 to 40
nm from the antenna site, but can be
9 nautical miles for stations at

KHB-49 162.40 MHz WX2
KEC-57 162.55 MHz WX1

SCALE 1:40,000

Nautical Miles

Statute Miles

1000 2000 3000
yards

Joins page 7

TIDAL CURRENT DATA

PLACE	MAXIMUM CURRENTS			
	FLOOD		EBB	
(LAT/LONG)	Direction (true) Degrees	Average Speed Knots	Direction (true) Degrees	Average Speed Knots
JOAQUIN RIVER				
0.3 mi E of 38°02' N/121°49' W	128	1.5	304	1.4
0.5 mi E of 37°59' N/121°23' W	135	0.7	315	0.4
0.5 mi SE of 38°01' N/121°46' W	90	0.4	270	0.7

Windmill
T & O Ranch

FEED SCALE

9 10 15 20 25 30 40 50 60

8

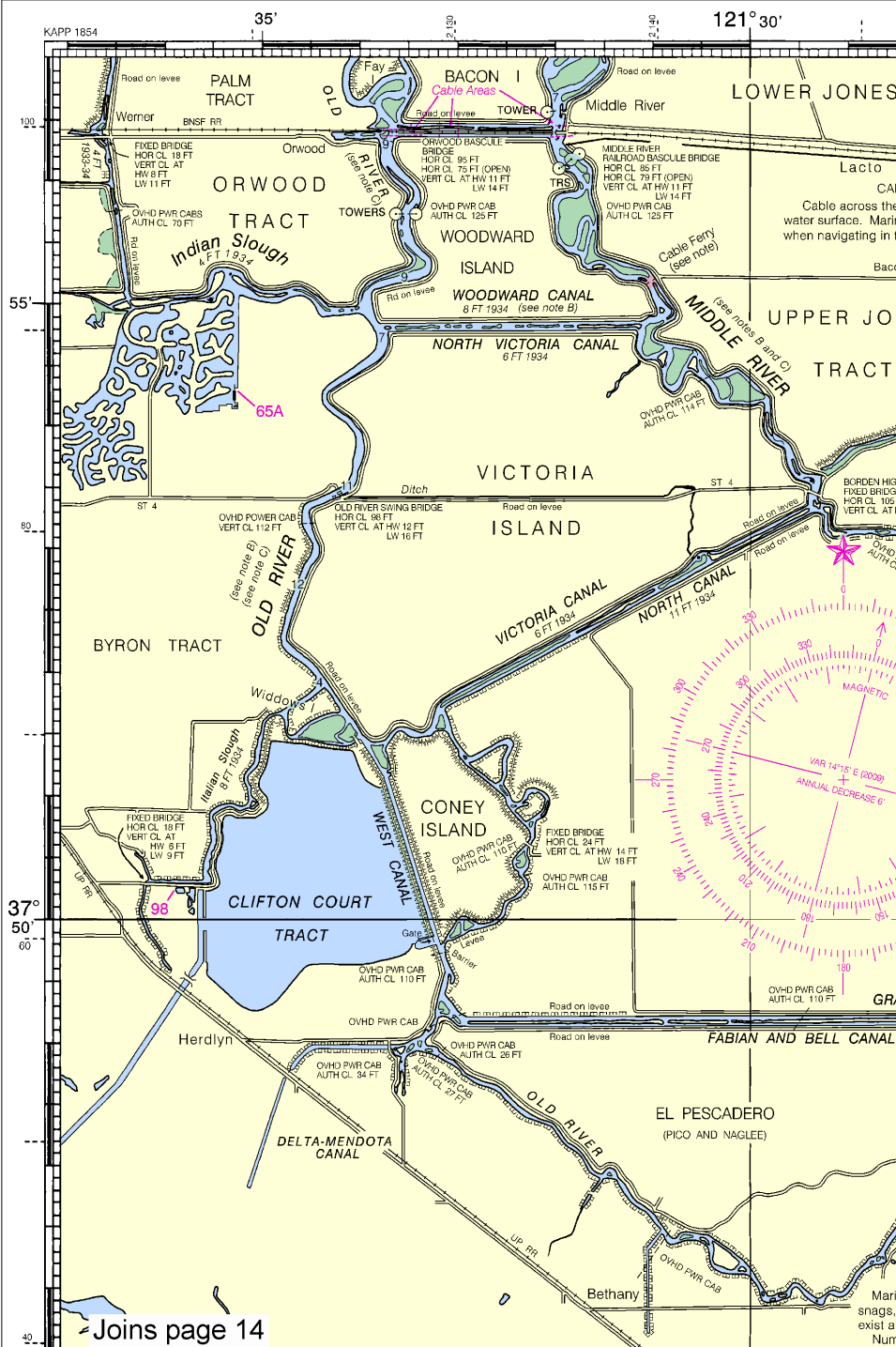
Note: Chart grid
lines are aligned
with true north.

Printed at reduced scale.

SCALE 1:40,000
Nautical Miles

See Note on page 5.

1 1/2 0 2 3
Yards
1000 0 1000 2000 3000 4000 5000



NSN 7642014011589
COAST SURVEY
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
Published at Washington, D.C.
Corrected through NM Mar. 14/09, LNM Mar. 03/09
Chart 18661, 30th Ed., Mar. /09

Joins page 4

SIDE A

SACRAMENTO AND SAN JOAQUIN RIVERS CALIFORNIA

THE NATION'S CHARTMAKER SINCE 1807



NAUTICAL CHART 18661

SAN FRANCISCO (Golden Gate), CALIFORNIA, 2009

Predicted times and heights of high and low water-Pacific Standard Time. For Daylight Saving time, add 1 hour.
To predict local tide, apply the time difference listed in the facility's instructions to these tide predictions.

JANUARY 2009			FEBRUARY 2009			MARCH 2009			APRIL 2009		
Day	Time	Ht.	Day	Time	Ht.	Day	Time	Ht.	Day	Time	Ht.
1	0303	5.0	16	0339	5.9	1	0313	5.6	16	0219	5.6
2	0816	2.8	17	0863	1.6	2	0862	1.3	17	0800	0.4
3	1350	4.8	18	1337	4.4	3	1302	3.9	18	1229	0.3
4	2022	0.5	19	2119	1.2	4	2102	2.1	19	2035	2.0
5	0336	5.2	20	0419	5.9	5	0396	5.9	20	0338	5.6
6	0917	2.5	21	0954	1.3	6	0852	0.9	21	0819	0.3
7	1452	4.4	22	1539	3.0	7	1424	0.7	22	1331	0.3
8	2100	0.4	23	2146	0.4	8	2102	0.7	23	2035	0.3

Joins page 16

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

For Symbols and Abbreviations see C

HORIZONTAL DATUM

The horizontal reference datum of this chart is the Datum of 1983 (NAD 83) and for charting purposes is equivalent to the World Geodetic System 1984 (WGS 84). Positions referred to the North American Datum corrected an average of 0.270" southward and agree with this chart.

NOTE A

Navigation regulations are published in Coast Pilot 7. Additions or revisions to Coast Pilot 7 are published in the Notice to Mariners. Information regarding regulations may be obtained at the Office of the District Engineer, Corps of Engineers, 11th Coast Guard District in Alameda, California, or the District Engineer, Corps of Engineers, Sacramento, California. Refer to charted regulation section n

FACILITIES

Locations of public marine facilities are shown by leaders and refer to the facility tabulation.

CAUTION

BASCULE BRIDGE CLEARANCE

For bascule bridges, whose spans do not swing up or vertical position, unlimited vertical clearance is available for the entire charted horizon.

TIDAL INFORMATION

PLACE	Height
NAME (LAT/LONG)	Mean High
Antioch (38°01'N/121°49'W)	3
Threemile Slough Entrance (38°05'N/121°41'W)	3
Prisoners Point (38°04'N/121°33'W)	4
Stockton (37°58'N/121°17'W)	3
Georgiana Slough Entrance (38°08'N/121°35'W)	4
Rio Vista (38°09'N/121°41'W)	4

NOTE: At Rio Vista, data apply during river stages.

Dashes (---) located in datum columns indicate unavailable datum values. Tide predictions, and tidal current predictions are available on the Internet (Feb 2009).

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners. Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

CAUTION

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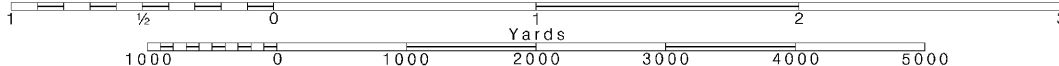
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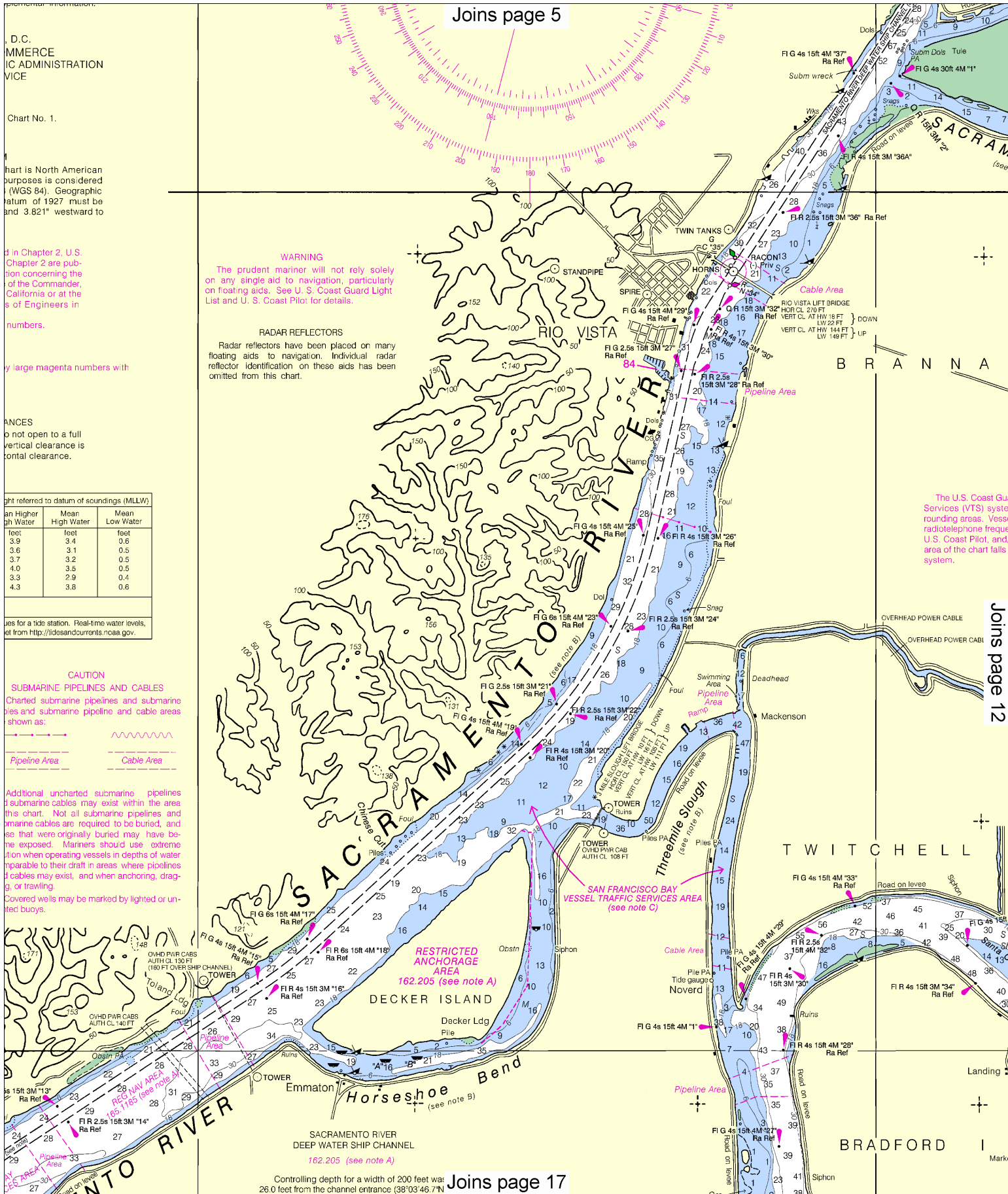
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
Nautical Miles

See Note on page 5.





Joins page 6

ISLETON BASCULE BRIDGE
HOR CL 200 FT
HOR CL 165 FT (OPEN)
VERT CL AT HW 15 FT
LW 18 FT

OVERHEAD POWER CABLE
AUTH CL 125 FT

ISLETON

TYLER ISLAND SWING BRIDGE
HOR CL 90 FT
VERT CL AT HW 10 FT
LW 13 FT

BRANNAN ISLAND

NOTE C
The U.S. Coast Guard operates a mandatory Vessel Traffic Services (VTS) system in the San Francisco Bay and surrounding areas. Vessel operating procedures and designated radiotelephone frequencies are published in 33 CFR 161, the U.S. Coast Pilot, and/or the VTS User's Manual. The entire area of the chart falls within the Vessel Traffic Services (VTS) system.

ANDRUS ISLAND

Perrys Hbr

Mokelumne River

MOKELUMNE RIVER SWING BRIDGE
HOR CL 100 FT
VERT CL AT HW 8 FT
LW 11 FT

WITCHELL ISLAND

Sevenmile Slough

OVERHEAD POWER CABLE
AUTH CL 23 FT
FIXED BRIDGE
HOR CL 16 FT
VERT CL 4 FT

San Andreas Pt

Rancho Hbr

Lighthouse Hbr

Willow Berm Hbr

Kohrs Hbr

Webb Reach

San Andreas Shoal

Webb Pt

Old River Pt

Potato Pt

WEBB TRACT

Joins page 18

Joins page 11

VESSELS

Joins page 6

ISLETON BASCULE BRIDGE
HOR CL 200 FT
HOR CL 165 FT (OPEN)
VERT CL AT HW 15 FT
LW 18 FT

OVERHEAD POWER CABLE
AUTH CL 125 FT

ISLETON

TYLER ISLAND SWING BRIDGE
HOR CL 90 FT
VERT CL AT HW 10 FT
LW 13 FT

BRANNAN ISLAND

NOTE C
The U.S. Coast Guard operates a mandatory Vessel Traffic Services (VTS) system in the San Francisco Bay and surrounding areas. Vessel operating procedures and designated radiotelephone frequencies are published in 33 CFR 161, the U.S. Coast Pilot, and/or the VTS User's Manual. The entire area of the chart falls within the Vessel Traffic Services (VTS) system.

ANDRUS ISLAND

Perrys Hbr

Mokelumne River

MOKELUMNE RIVER SWING BRIDGE
HOR CL 100 FT
VERT CL AT HW 8 FT
LW 11 FT

WITCHELL ISLAND

Sevenmile Slough

OVERHEAD POWER CABLE
AUTH CL 23 FT
FIXED BRIDGE
HOR CL 16 FT
VERT CL 4 FT

San Andreas Pt

Rancho Hbr

Lighthouse Hbr

Willow Berm Hbr

Kohrs Hbr

Webb Reach

San Andreas Shoal

Webb Pt

Old River Pt

Potato Pt

WEBB TRACT

Joins page 18

Joins page 11

VESSELS

Joins page 6

ISLETON BASCULE BRIDGE
HOR CL 200 FT
HOR CL 165 FT (OPEN)
VERT CL AT HW 15 FT
LW 18 FT

OVERHEAD POWER CABLE
AUTH CL 125 FT

ISLETON

TYLER ISLAND SWING BRIDGE
HOR CL 90 FT
VERT CL AT HW 10 FT
LW 13 FT

BRANNAN ISLAND

NOTE C
The U.S. Coast Guard operates a mandatory Vessel Traffic Services (VTS) system in the San Francisco Bay and surrounding areas. Vessel operating procedures and designated radiotelephone frequencies are published in 33 CFR 161, the U.S. Coast Pilot, and/or the VTS User's Manual. The entire area of the chart falls within the Vessel Traffic Services (VTS) system.

ANDRUS ISLAND

Perrys Hbr

Mokelumne River

MOKELUMNE RIVER SWING BRIDGE
HOR CL 100 FT
VERT CL AT HW 8 FT
LW 11 FT

WITCHELL ISLAND

Sevenmile Slough

OVERHEAD POWER CABLE
AUTH CL 23 FT
FIXED BRIDGE
HOR CL 16 FT
VERT CL 4 FT

San Andreas Pt

Rancho Hbr

Lighthouse Hbr

Willow Berm Hbr

Kohrs Hbr

Webb Reach

San Andreas Shoal

Webb Pt

Old River Pt

Potato Pt

WEBB TRACT

Joins page 18

Joins page 11

VESSELS

Joins page 6

ISLETON BASCULE BRIDGE
HOR CL 200 FT
HOR CL 165 FT (OPEN)
VERT CL AT HW 15 FT
LW 18 FT

OVERHEAD POWER CABLE
AUTH CL 125 FT

ISLETON

TYLER ISLAND SWING BRIDGE
HOR CL 90 FT
VERT CL AT HW 10 FT
LW 13 FT

BRANNAN ISLAND

NOTE C
The U.S. Coast Guard operates a mandatory Vessel Traffic Services (VTS) system in the San Francisco Bay and surrounding areas. Vessel operating procedures and designated radiotelephone frequencies are published in 33 CFR 161, the U.S. Coast Pilot, and/or the VTS User's Manual. The entire area of the chart falls within the Vessel Traffic Services (VTS) system.

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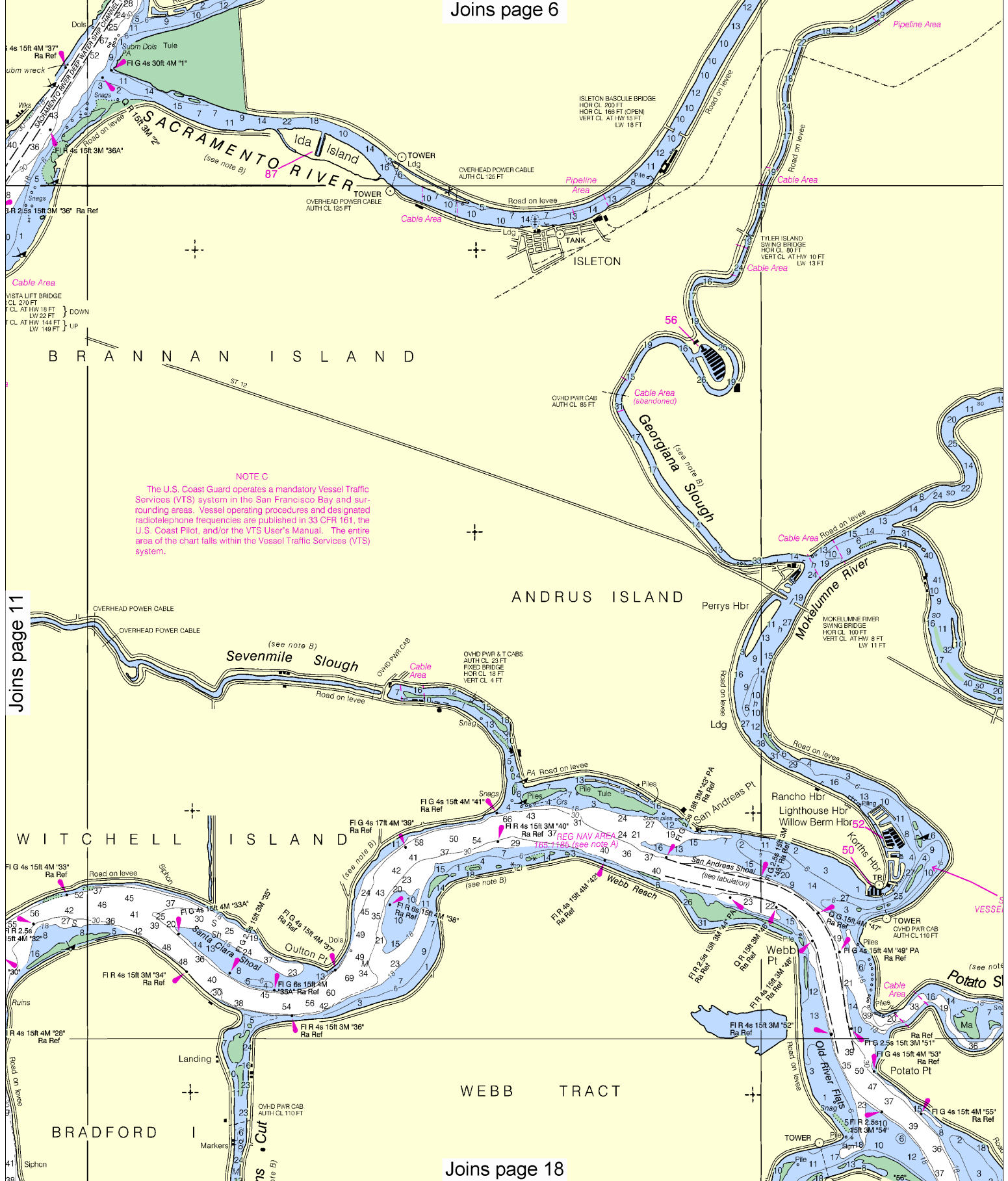
Potato Pt

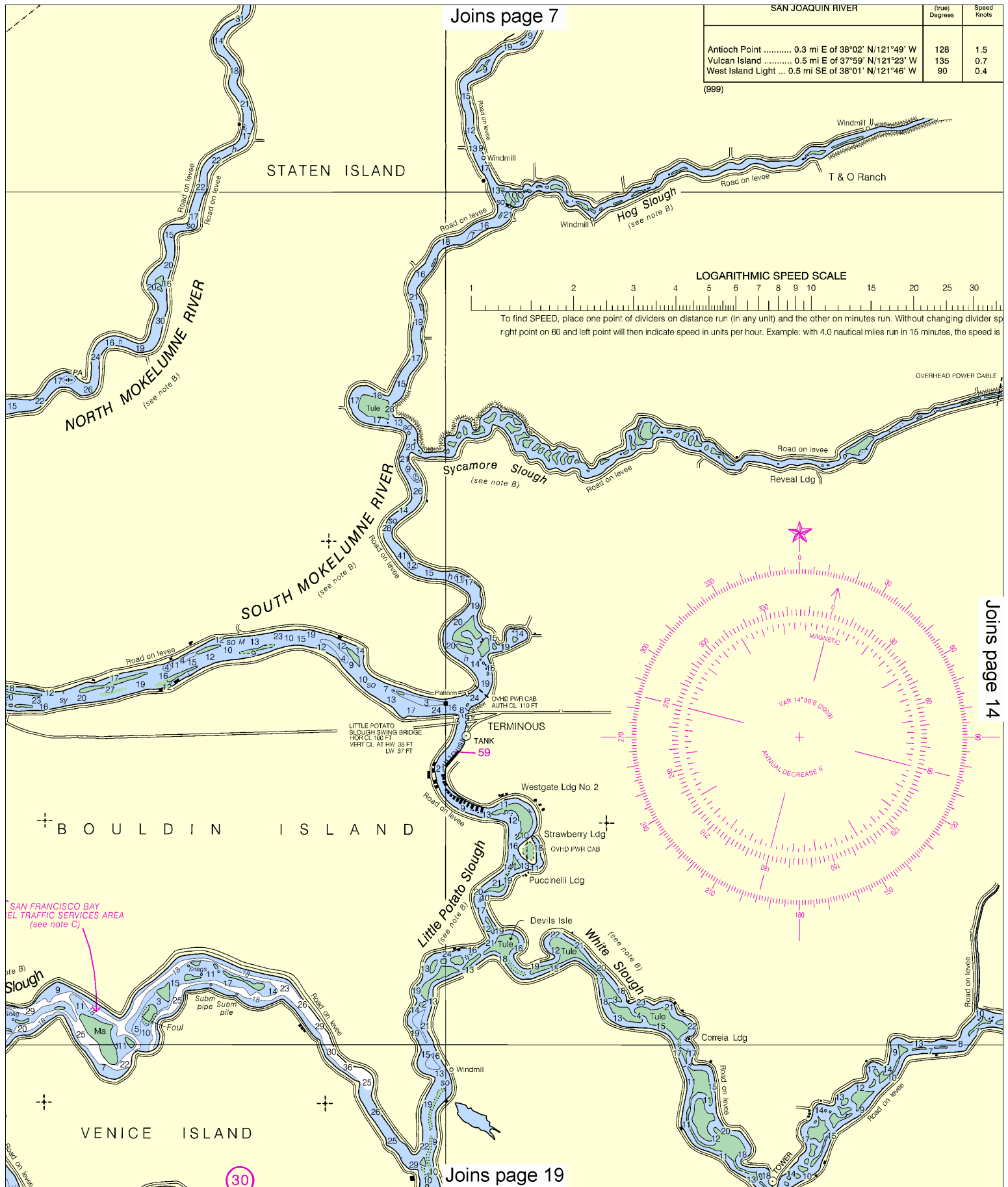
WEBB TRACT

Joins page 18

Joins page 11

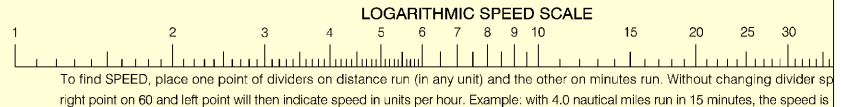
VESSELS





SAN JOAQUIN RIVER		(true) Degrees	Speed Knots
Antioch Point	0.3 mi E of 38°02' N/121°49' W	128	1.5
Vulcan Island	0.5 mi E of 37°59' N/121°23' W	135	0.7
West Island Light ...	0.5 mi SE of 38°01' N/121°46' W	90	0.4

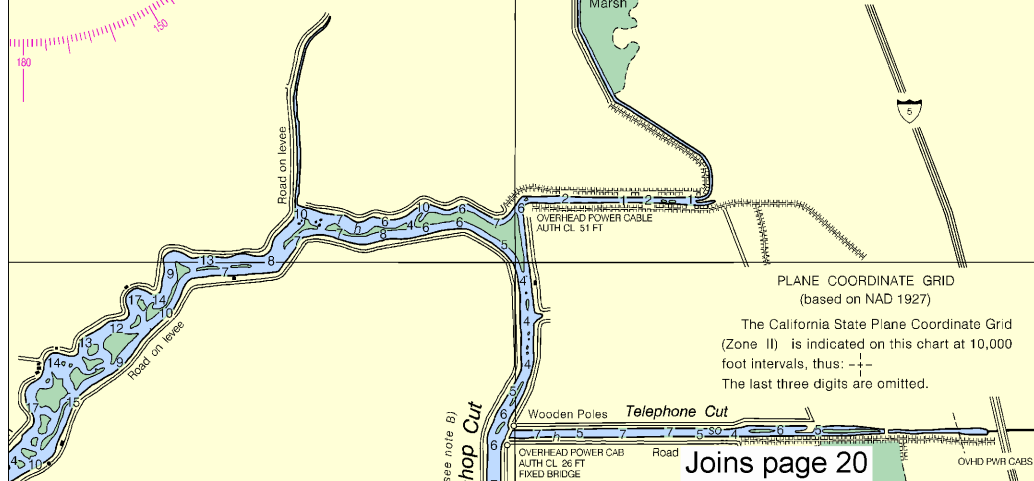
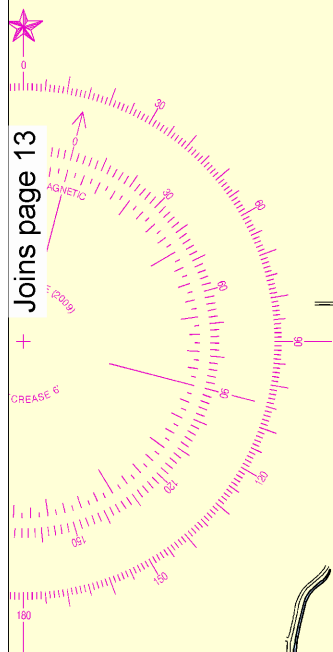
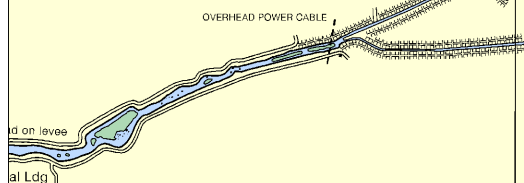
(999)



JOAQUIN RIVER	(true) Degrees	Speed Knots	(true) Degrees	Speed Knots
0.3 mi E of 38°02' N/121°49' W	128	1.5	304	1.4
0.5 mi E of 37°59' N/121°23' W	135	0.7	315	0.4
0.5 mi SE of 38°01' N/121°46' W	90	0.4	270	0.7

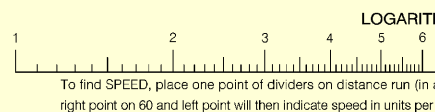


PEED SCALE
 9 10 15 20 25 30 40 50 60
 If the other on minutes run. Without changing divider spread, place
 ple: with 4.0 nautical miles run in 15 minutes, the speed is 16.0 knots.



SAN JOAQUIN RIVER-STOCKTON DEEP WATER CHANNEL						
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO AUG 2007						
CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)				PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	DEPTH (FEET)
ANTIOCH TO LIGHT 17	30.8	30.4	28.8	8-07	400	3.3
LIGHT 17 TO LIGHT 43	A	A	A			
LIGHT 43 TO LIGHT 51	28.8	32.3	32.0	8-07	600	1.5
LIGHT 51 TO LIGHT 2	A	A	A			
LIGHT 2 TO LIGHT 6	34.0	35.3	35.4	8-07	225	1.5
THENCE TO LIGHT 16	33.3	33.3	31.8	8-07	225-250	2.8
THENCE TO LIGHT 24	31.5	32.3	32.6	8-07	225-250	2.1
THENCE TO LIGHT 34	32.0	32.7	31.4	8-07	250	1.5
THENCE TO LIGHT 43	31.0	32.3	30.4	8-07	200-250	3.4
THENCE TO LIGHT 48	28.9	31.1	31.1	8-07	225-250	1.1
THENCE TO TURNING BASIN	28.7	34.2	33.3	8-07	225-250	0.8
TURNING BASIN	25.1	28.6	25.9	8-07	225-975	0.3
A. SEE CHARTED SOUNDINGS.						
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION						

PLANE COORDINATE GRID
 (based on NAD 1927)
 The California State Plane Coordinate Grid
 (Zone II) is indicated on this chart at 10,000
 foot intervals, thus: -1-
 The last three digits are omitted.



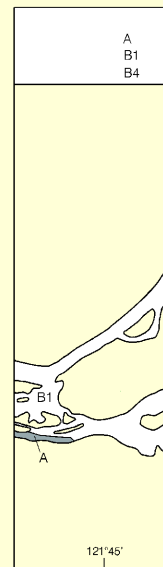
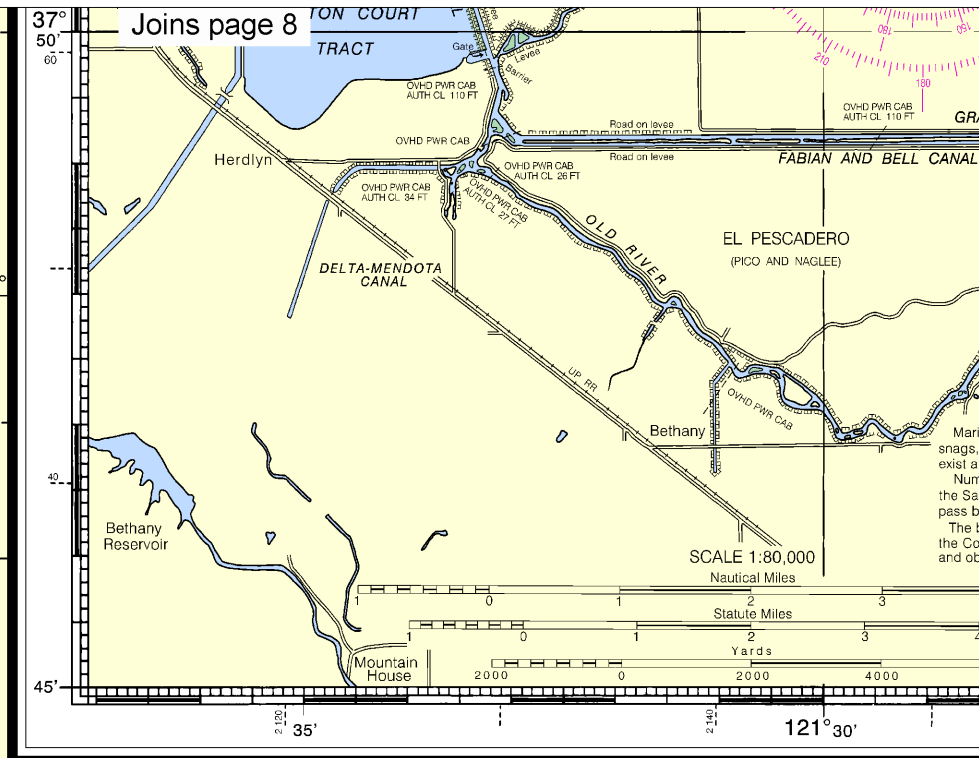
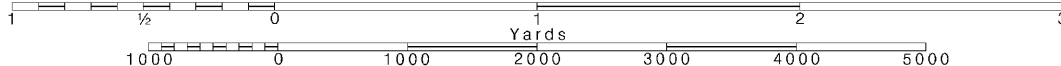
14

Note: Chart grid
 lines are aligned
 with true north.

Printed at reduced scale.

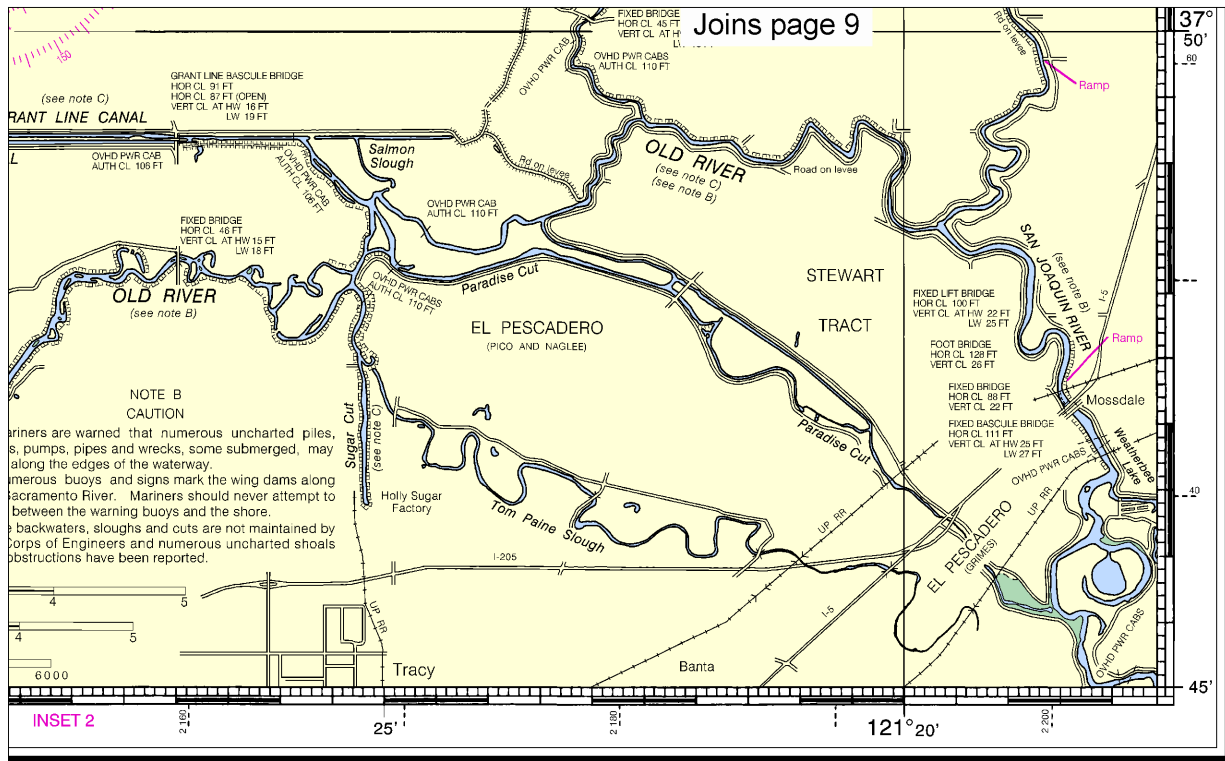
SCALE 1:40,000
 Nautical Miles

See Note on page 5.

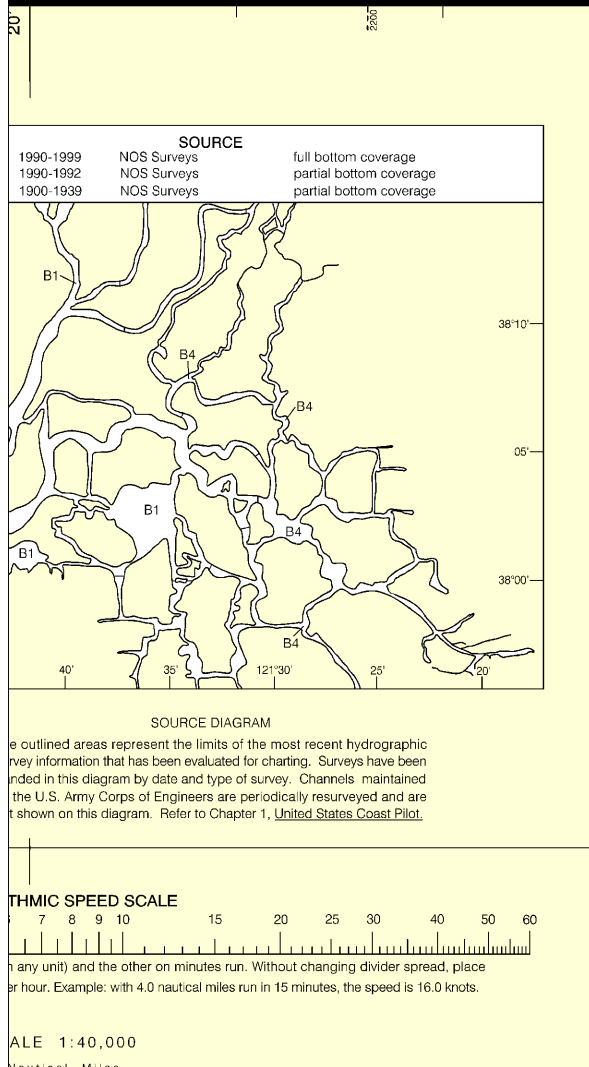


The sur
 band
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SCA
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SIDE A



This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

Joins page 21

DEPTHS	SERVICES	SUPPLIES
APPROACH-DEPTHS (REPORTED)	BOAT RENTAL	DIESEL OIL-GASOLINE
ALONGSIDE-DEPTHS (REPORTED)	BOAT CAPACITY-TONS	BAIT-TACKLE
BEHIND-DEPTHS (REPORTED)	BOAT LIFT	GROCERIES-HARDWARE
REPAIRS	BOAT RAMP	WATER-ICE
RAMP SURFACED-NATURAL	BOAT RAMP	NAUTICAL CHART SALES
REPAIRS	BOAT RAMP	WINTER STORAGE WET-DRY
REPAIRS	BOAT RAMP	TOILETS-SHOWERS-LAUNDRY
REPAIRS	BOAT RAMP	PUMP-OUT STATION
REPAIRS	BOAT RAMP	FOOD-LODGING-CAMPING
REPAIRS	BOAT RAMP	CHARTER-HOUSE-SAIL
REPAIRS	BOAT RAMP	CHARTER-HOUSE-KAYAK
REPAIRS	BOAT RAMP	CHARTER-HOUSE-KAYAK

NAUTICAL CHART 18661

SAN FRANCISCO (Golden Gate), CALIFORNIA, 2009

Predicted times and heights of high and low water-Pacific Standard Time. For Daylight Saving time, add 1 hour.
To predict local tide, apply the time difference listed in the facility publications to these tide predictions.

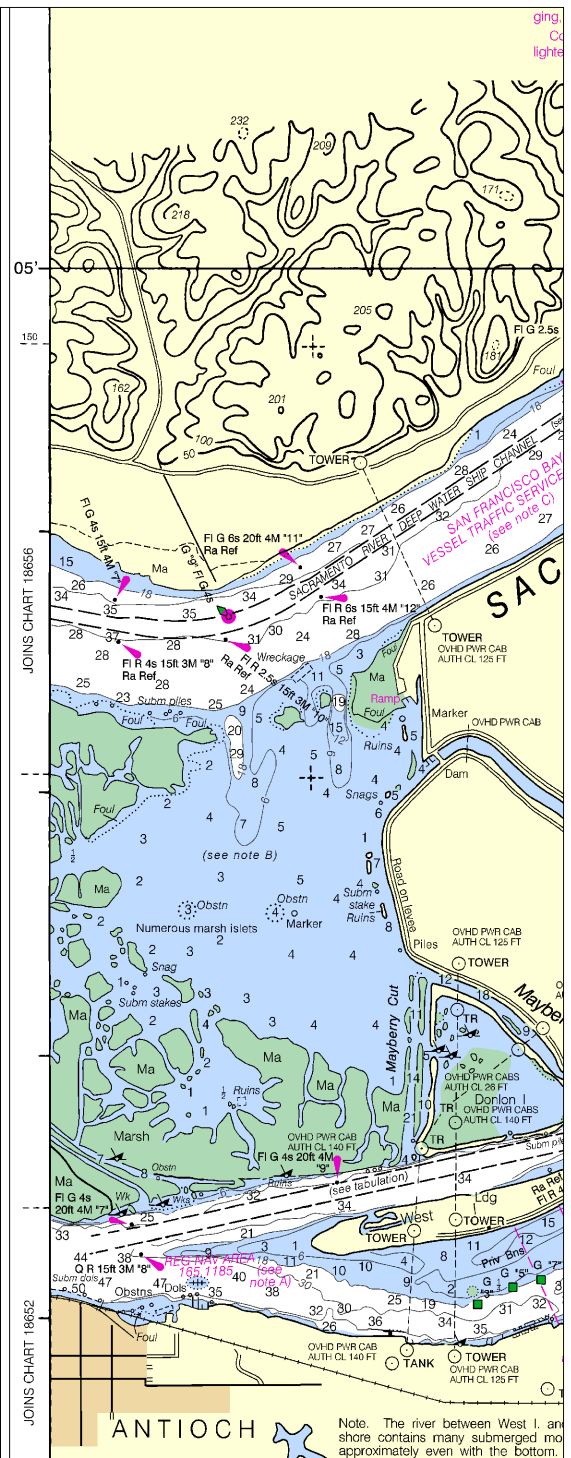
JANUARY 2009			FEBRUARY 2009			MARCH 2009			APRIL 2009					
Day	Time	HT.	Day	Time	HT.	Day	Time	HT.	Day	Time	HT.	Day	Time	HT.
Day	Time	HT.	Day	Time	HT.	Day	Time	HT.	Day	Time	HT.	Day	Time	HT.
1	0303	5.0	16	0335	5.9	1	0313	5.8	16	0210	5.8	16	0230	5.8
2	0318	5.8	17	F 0343	6.8	2	Su 0342	1.3	17	Su 0813	0.5	17	W 0600	-0.4
3	0333	6.6	18	0403	7.6	3	0358	7.5	18	0828	1.3	18	0615	0.7
4	0348	7.4	19	0418	8.4	4	0413	8.3	19	0950	2.1	19	0742	1.5
5	0403	8.2	20	0433	9.4	5	0428	9.1	20	1020	2.9	20	0810	2.3
6	0418	9.0	21	0448	10.6	6	0433	10.2	21	1100	3.7	21	0840	3.1
7	0433	9.8	22	0503	11.6	7	0443	11.5	22	1130	4.5	22	0910	3.9
8	0448	10.6	23	0518	12.6	8	0458	12.5	23	1200	5.3	23	0940	4.7
9	0503	11.4	24	0533	13.6	9	0513	13.5	24	1230	6.1	24	1010	5.5
10	0518	12.2	25	0548	14.6	10	0528	14.5	25	1300	6.9	25	1040	6.3
11	0533	13.0	26	0563	15.6	11	0543	15.5	26	1330	7.7	26	1110	7.1
12	0548	13.8	27	0578	16.6	12	0558	16.5	27	1400	8.5	27	1140	7.9
13	0603	14.6	28	0593	17.6	13	0613	17.5	28	1430	9.3	28	1210	8.7
14	0618	15.4	29	0603	18.6	14	0628	18.5	29	1500	10.1	29	1240	9.5
15	0633	16.2	30	0613	19.6	15	0638	19.5	30	1530	10.9	30	1310	10.3
16	0648	17.0				16	0648	20.3						
1	0303	5.0	16	0335	5.9	1	0313	5.8	16	0210	5.8	16	0230	5.8
2	0318	5.8	17	F 0343	6.8	2	Su 0342	1.3	17	Su 0813	0.5	17	W 0600	-0.4
3	0333	6.6	18	0403	7.6	3	0358	7.5	18	0828	1.3	18	0615	0.7
4	0348	7.4	19	0418	8.4	4	0413	8.3	19	0950	2.1	19	0742	1.5
5	0403	8.2	20	0433	9.4	5	0428	9.1	20	1020	2.9	20	0810	2.3
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7	0433	9.8	22	0503	11.6	7	0443	11.5	22	1130	4.5	22	0910	3.9
8	0448	10.6	23	0518	12.6	8	0458	12.5	23	1200	5.3	23	0940	4.7
9	0503	11.4	24	0533	13.6	9	0513	13.5	24	1230	6.1	24	1010	5.5
10	0518	12.2	25	0548	14.6	10	0528	14.5	25	1300	6.9	25	1040	6.3
11	0533	13.0	26	0563	15.6	11	0543	15.5	26	1330	7.7	26	1110	7.1
12	0548	13.8	27	0578	16.6	12	0558	16.5	27	1400	8.5	27	1140	7.9
13	0603	14.6	28	0593	17.6	13	0613	17.5	28	1430	9.3	28	1210	8.7
14	0618	15.4	29	0603	18.6	14	0628	18.5	29	1500	10.1	29	1240	9.5
15	0633	16.2	30	0613	19.6	15	0638	19.5	30	1530	10.9	30	1310	10.3
16	0648	17.0				16	0648	20.3						
1	0303	5.0	16	0335	5.9	1	0313	5.8	16	0210	5.8	16	0230	5.8
2	0318	5.8	17	F 0343	6.8	2	Su 0342	1.3	17	Su 0813	0.5	17	W 0600	-0.4
3	0333	6.6	18	0403	7.6	3	0358	7.5	18	0828	1.3	18	0615	0.7
4	0348	7.4	19	0418	8.4	4	0413	8.3	19	0950	2.1	19	0742	1.5
5	0403	8.2	20	0433	9.4	5	0428	9.1	20	1020	2.9	20	0810	2.3
6	0418	9.0	21	0448	10.6	6	0433	10.2	21	1100	3.7	21	0840	3.1
7	0433	9.8	22	0503	11.6	7	0443	11.5	22	1130	4.5	22	0910	3.9
8	0448	10.6	23	0518	12.6	8	0458	12.5	23	1200	5.3	23	0940	4.7
9	0503	11.4	24	0533	13.6	9	0513	13.5	24	1230	6.1	24	1010	5.5
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12	0548	13.8	27	0578	16.6	12	0558	16.5	27	1400	8.5	27	1140	7.9
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14	0618	15.4	29	0603	18.6	14	0628	18.5	29	1500	10.1	29	1240	9.5
15	0633	16.2	30	0613	19.6	15	0638	19.5	30	1530	10.9	30	1310	10.3
16	0648	17.0				16	0648	20.3						
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2	0318	5.8	17	F 0343	6.8	2	Su 0342	1.3	17	Su 0813	0.5	17	W 0600	-0.4
3	0333	6.6	18	0403	7.6	3	0358	7.5	18	0828	1.3	18	0615	0.7
4	0348	7.4	19	0418	8.4	4	0413	8.3	19	0950	2.1	19	0742	1.5
5	0403	8.2	20	0433	9.4	5	0428	9.1	20	1020	2.9	20	0810	2.3
6	0418	9.0	21	0448	10.6	6	0433	10.2	21	1100	3.7	21	0840	3.1
7	0433	9.8	22	0503	11.6	7	0443	11.5	22	1130	4.5	22	0910	3.9
8	0448	10.6	23	0518	12.6	8	0458	12.5	23	1200	5.3	23	0940	4.7
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15	0633	16.2	30	0613	19.6	15	0638	19.5	30	1530	10.9	30	1310	10.3
16	0648	17.0				16	0648	20.3						
1	0303	5.0	16	0335	5.9	1	0313	5.8	16	0210	5.8	16	0230	5.8
2	0318	5.8	17	F 0343	6.8	2	Su 0342	1.3	17	Su 0813	0.5	17	W 0600	-0.4
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10	0518	12.2	25	0548	14.6	10	0528	14.5	25	1300	6.9	25	1040	6.3
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9	0503	11.4	24	0533	13.6	9	0513	13.5	24	1230	6.1	24	1010	5.5
10	0518	12.2	25	0548	14.6	10	0528	14.5	25	1300	6.9	25	1040	6.3
11	0533	13.0	26	0563	15.6	11	0543	15.5	26	1330	7.7	26	1110	7.1
12	0548	13.8	27	0578	16.6	12	0558	16.5	27	1400	8.5	27	1140	7.9
13	0603	14.6	28	0593	17.6	13	0613	17.5	28	1430	9.3	28	1210	8.7
14	0618	15.4	29	0603	18.6	14	0628	18.5	29	1500	10.1	29	1240	9.5
15	0633	16.2	30	0613	19.6	15	0638	19.5	30	1530	10.9	30	1310	10.3
16	0648	17.0				16	0648	20.3						
1	0303	5.0	16	0335	5.9	1	0313	5.8	16	0210	5.8	16	0230	5.8
2	0318	5.8	17	F 0343	6.8	2	Su 0342	1.3	17	Su 0813	0.5	17	W 0600	-0.4
3	0333	6.6	18	0403	7.6	3								

MAY 2009				JUNE 2009				JULY 2009				AUGUST 2009					
Day	Time	Ht.	Day	Time	Ht.	Day	Time	Ht.	Day	Time	Ht.	Day	Time	Ht.	Day	Time	Ht.
1	0346	6.3	16	0333	6.3	1	0310	6.3	16	0255	6.3	1	0240	6.3	16	0442	0.6
2	1045	0.6	17	1023	0.6	2	1003	0.6	17	0948	0.6	2	0935	0.6	17	0942	0.7
3	2309	2.6	18	2341	2.7	3	1902	1.8	18	1859	6.1	3	2003	6.0	18	1626	6.6
4	2505	4.9	17	2441	4.4	4	2133	0.6	17	2098	0.4	4	2107	0.3	17	2028	-0.6
5	1147	5.1	18	1839	4.7	5	1203	1.4	18	1151	0.8	5	1210	3.3	18	1417	2.2
6			19	1815	5.0	6	1940	1.7	19	1844	6.1	6	1940	6.1	19	2052	6.0
7	3044	1.9	18	3040	2.2	7	2022	0.0	18	2014	0.5	7	2034	-0.3	18	2050	-0.7
8	0957	4.6	19	0958	3.9	8	2054	3.6	19	2054	3.6	8	2054	3.6	19	2037	0.9
9	1244	4.2	20	1255	0.9	9	2144	1.8	20	2145	1.8	9	2145	1.8	20	2138	0.4
10	1950	5.4	19	1910	5.0	10	2211	6.1	19	2222	6.1	10	2222	6.1	19	2127	6.9
11						11			20			20			20		
12	M 0745	4.7	20	0717	3.9	12	2109	4.1	20	2109	4.1	12	2109	4.1	20	2109	4.1
13			21	0717	3.9	13	2109	4.1	21	2109	4.1	13	2109	4.1	21	2109	4.1
14			22	0717	3.9	14	2109	4.1	22	2109	4.1	14	2109	4.1	22	2109	4.1
15			23	0717	3.9	15	2109	4.1	23	2109	4.1	15	2109	4.1	23	2109	4.1
16			24	0717	3.9	16	2109	4.1	24	2109	4.1	16	2109	4.1	24	2109	4.1
17			25	0717	3.9	17	2109	4.1	25	2109	4.1	17	2109	4.1	25	2109	4.1
18			26	0717	3.9	18	2109	4.1	26	2109	4.1	18	2109	4.1	26	2109	4.1
19			27	0717	3.9	19	2109	4.1	27	2109	4.1	19	2109	4.1	27	2109	4.1
20			28	0717	3.9	20	2109	4.1	28	2109	4.1	20	2109	4.1	28	2109	4.1
21			29	0717	3.9	21	2109	4.1	29	2109	4.1	21	2109	4.1	29	2109	4.1
22			30	0717	3.9	22	2109	4.1	30	2109	4.1	22	2109	4.1	30	2109	4.1
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SEPTEMBER 2009			OCTOBER 2009			NOVEMBER 2009			DECEMBER 2009		
Time	HT.		Time	HT.		Time	HT.		Time	HT.	

Joins page 22

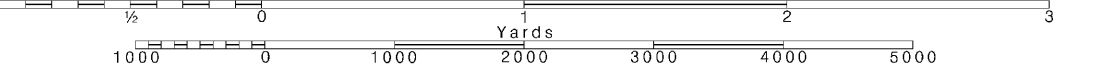
SIDE B



Note. The river between West I. and shore contains many submerged mo. approximately even with the bottom.

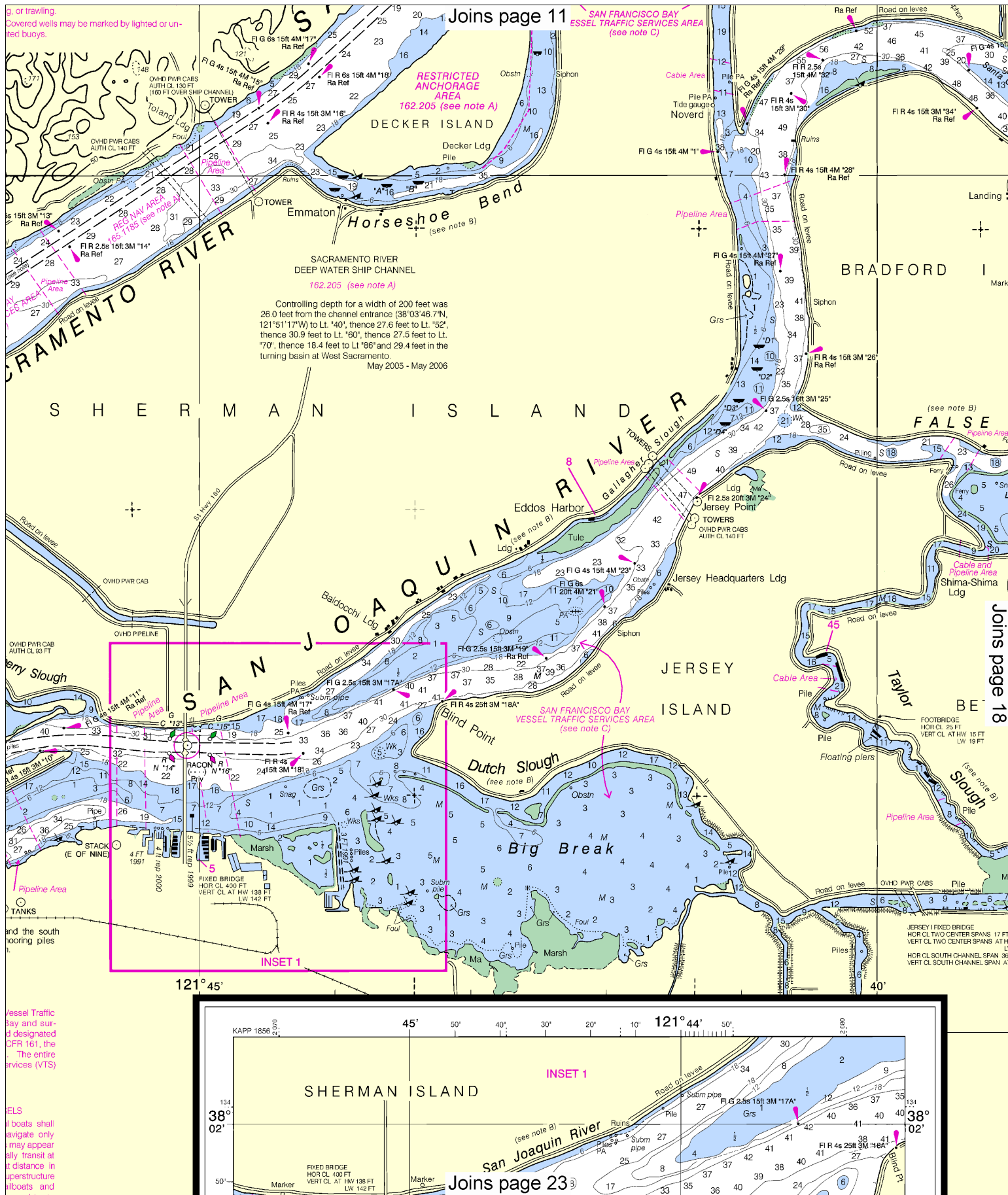
NOTE C
The U.S. Coast Guard operates a mandatory Vessel Traffic Services (VTS) system in the San Francisco Bay area. Vessel operating procedures and radiotelephone frequencies are published in 33 CFR 16.05, U.S. Coast Pilot, and/or the VTS User's Manual. The area of the chart falls within the Vessel Traffic Services area.

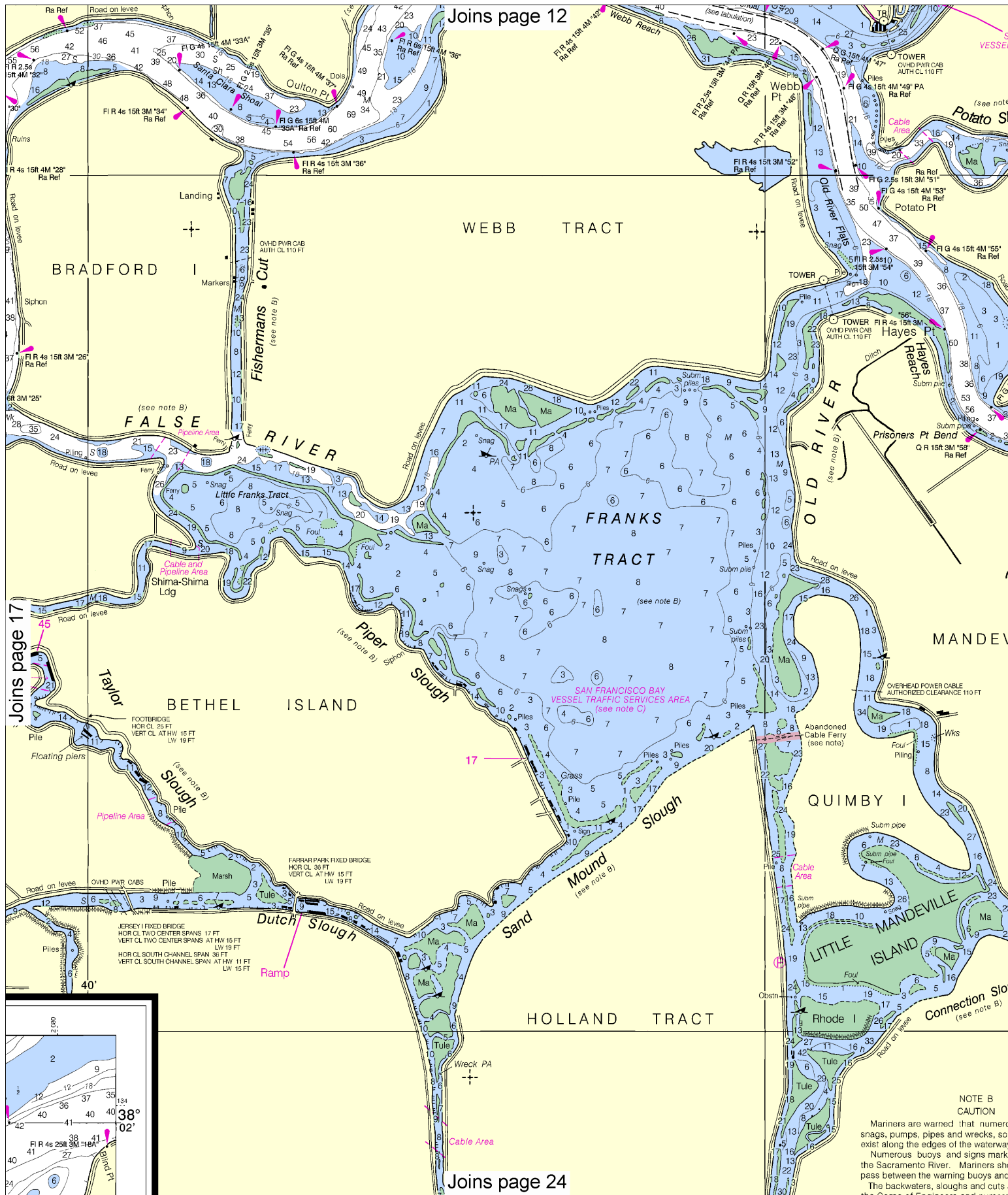
CAUTION
WARNING CONCERNING LARGE VESSEL
The "Rules of the Road" state that recreational boats must not impede the passage of a vessel that can maneuver within a narrow channel or fairway. Large vessels may move slowly due to their large size but actually speeds in excess of 12 knots, requiring a great deal of maneuver or stop. A large vessel's slip may block the wind with the result that sail



Vessel Traffic Bay and surrounding designated CFR 161, the . The entire services (VTS)

ail boats shall
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ailboats and



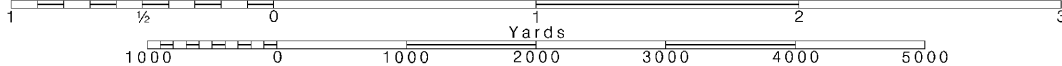


Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
Nautical Miles

See Note on page 5.



NOTE B
CAUTION
Mariners are warned that numerous snags, pumps, pipes and wrecks, so exist along the edges of the waterway. Numerous buoys and signs mark the Sacramento River. Mariners should pass between the warning buoys and the backwaters, sloughs and cuts.

erous uncharted piles, some submerged, may vary.

Mark the wing dams along the shore. They should never attempt to touch the shore. If they are not maintained by

EXPLOSIVE
ANCHORAGE
110.224
(see note A)

KING ISLAND

Cable across the river may be at or near the water surface. Mariners should exercise caution when navigating in this area.

**RULES OF THE ROA
(ABRIDGED)**

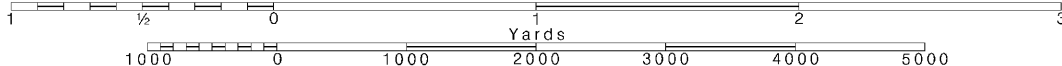
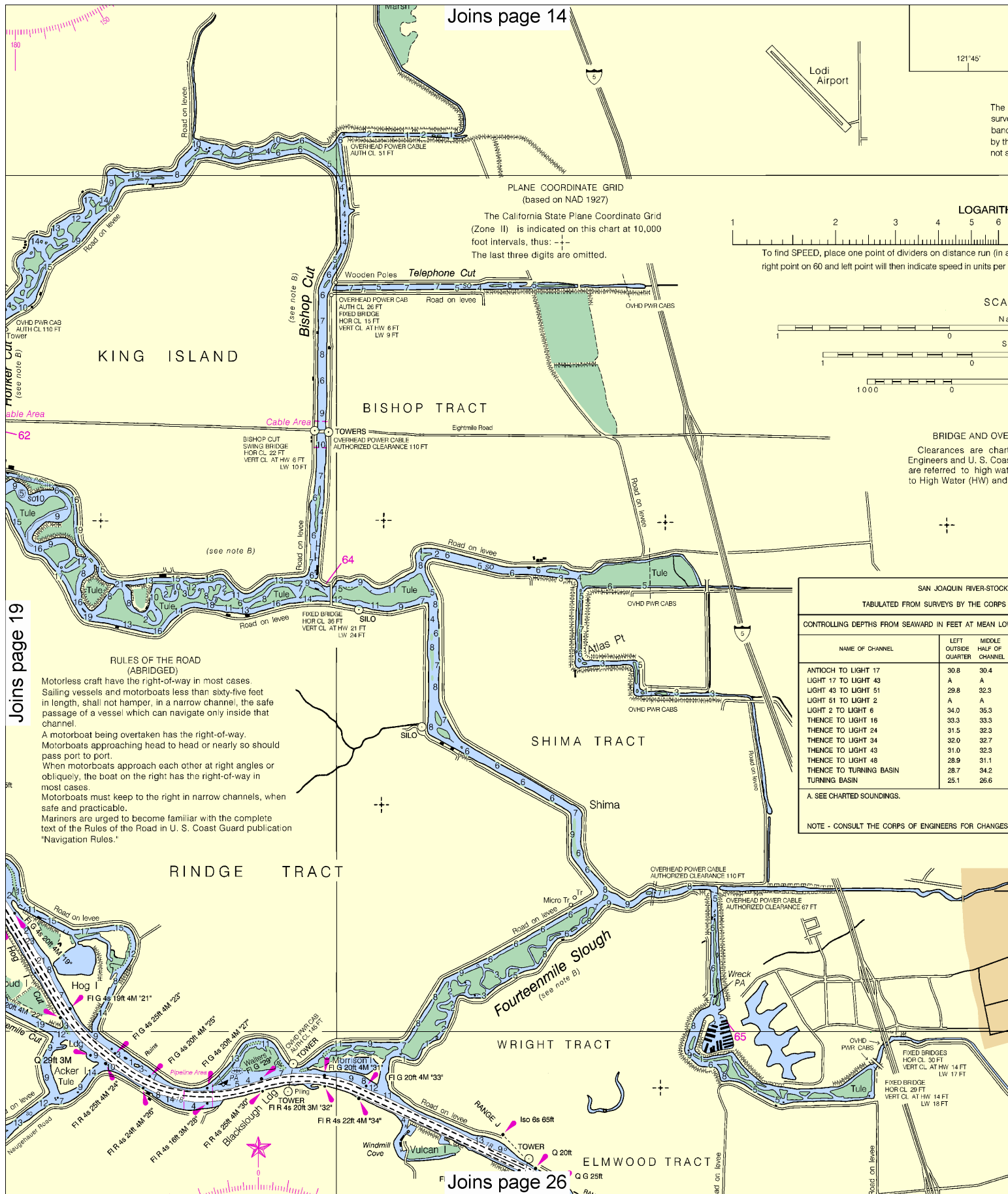
Motorless craft have the right-of-way i
Sailing vessels and motorboats less t
in length, shall not hamper, in a narrow
passage of a vessel which can navigate
channel.

A motorboat being overtaken has the right-
Motorboats approaching head to head or ne
pass port to port.

When motorboats approach each other at r
obliquely, the boat on the right has the r
most cases.

Motorboats must keep to the right in narrow
safe and practicable.

Mariners are urged to become familiar with
text of the Rules of the Road in U. S. Coast
"Navigation Rules."

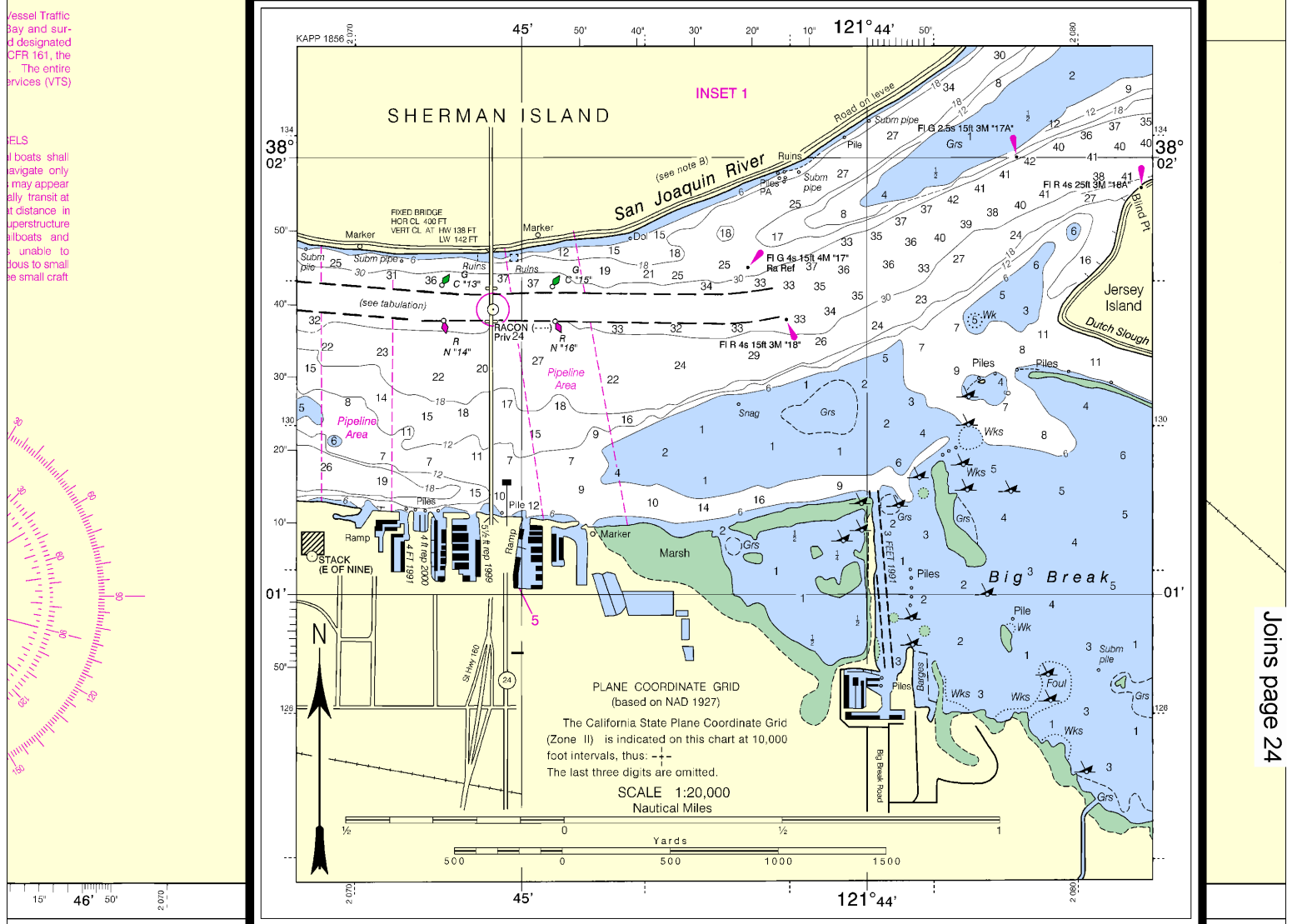
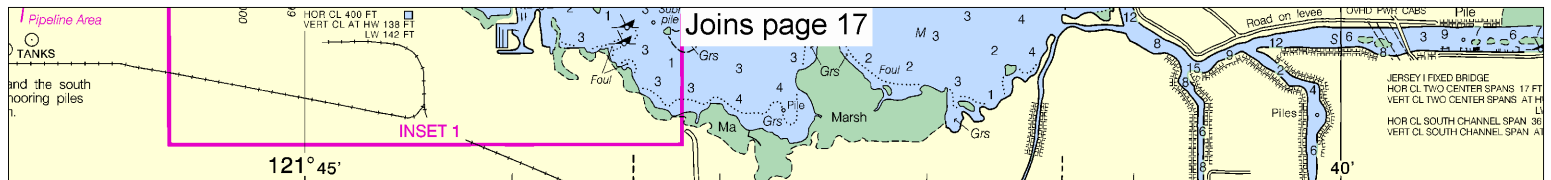




THE LOCATIONS OF THE ABOVE PUBLIC MARINE FACILITIES ARE SHOWN ON THE CHART BY MAGENTA NUMBERS AND LEADERS. THE TABULATED "APPROACH-TEE (REPORTED)" IS THE DEPTH AVAILABLE FROM THE NEAREST NATURAL OR DREDGED CHANNEL TO THE FACILITY. THE TABULATED "PUMP-OUT STATION" IS DEFINED AS FACILITIES AVAILABLE FOR PUMPING OUT BOAT HOLDING TANKS.

2137 6.0	2048 6.0	2209 6.0	2144 6.9	2227 6.0	2227 7.1	2328 5.8
7 0409 -0.5	22 0336 -0.6	7 0511 -1.0	20 0449 -1.0	7 0526 -0.7	22 0519 -1.5	7 0559 0.0
Th 1056 4.5	F 1036 4.2	W 1238 4.4	M 1215 4.7	Tu 1033 4.6	W 1208 5.2	F 1255 5.3
1346 1.9	1926 2.5	1647 3.0	1934 2.5	1712 2.1	1710 2.3	1806 2.3
2038 6.1	1826 3.5	2244 5.9	2244 5.9	2304 5.0	2304 5.0	2329 0.9
8 0448 -0.8	23 0419 -1.2	8 0548 -1.0	20 0537 -1.9	8 0600 -0.6	23 0603 -1.3	8 0608 5.6
F 149 4.2	25 1311 4.4	M 1318 4.4	Tu 1320 2.9	W 1322 4.7	Th 1306 5.0	Se 0626 0.3
W 1525 2.2	1726 2.5	1726 2.5	1719 2.9	1721 2.9	1656 2.7	1322 0.7
2339 6.0	2206 5.5	2320 5.6	2327 5.9	2341 5.8	1944 2.1	1956 0.7
9 0525 1.0	24 0521 -1.7	9 0621 -0.9	24 0521 -1.9	9 0631 -0.5	24 0614 5.6	9 0637 5.2
Th 1236 4.4	Su 1224 4.5	Tu 1357 4.4	W 1344 5.1	Th 1349 4.7	Th 0645 -0.9	Su 0855 0.7
W 1726 5.5	2211 5.9	2251 5.7	2357 5.6	1830 2.9	1904 1.8	1927 1.9
10 0632 -1.0	25 0548 -1.9	10 0657 -0.7	25 0521 5.8	10 0618 5.6	25 0109 5.0	10 0132 4.8
M 1326 4.4	M 1318 4.4	W 1433 3.1	Th 0111 -1.5	F 0102 -0.3	Su 0726 -0.3	M 0726 1.1
1449 2.8	1728 2.7	1853 3.1	1429 5.7	1416 4.8	1426 5.9	1419 5.5
2344 5.7	1511 1.7	1853 3.1	1853 3.1	1915 2.8	2005 1.5	2039 0.7
11 0640 -0.9	26 0639 -1.9	11 0638 5.4	26 0117 6.1	11 0558 5.2	26 0208 5.3	11 0226 4.4
M 1413 4.2	Th 1428 4.7	Th 0733 -0.5	F 0738 -1.1	Se 0734 0.0	Su 0811 0.4	Tu 0850 1.6
1838 3.3	1853 3.0	1508 4.4	1513 5.4	1449 1.4	1449 1.4	1507 1.0
12 0630 5.5	27 0639 5.5	12 0639 5.5	27 0639 5.5	12 0639 5.5	27 0639 5.5	27 0639 5.5
Tu 0720 -0.7	W 0728 -1.7	F 0811 -0.3	SA 0845 -0.4	Su 0802 5.2	M 0856 1.2	W 0838 2.2
1814 3.1	1926 2.6	2036 3.0	2140 1.9	2055 2.4	2220 1.0	2217 1.0
13 0659 5.3	28 0638 6.1	13 0638 6.1	28 0638 6.1	13 0638 6.1	28 0638 6.1	13 0638 6.1
W 0802 5.5	Th 0838 5.8	1616 4.7	1842 5.4	1546 5.3	1623 6.0	1618 5.9
1350 4.2	1852 4.9	2142 2.8	2248 2.4	2300 1.5	2300 1.5	2300 1.5
2058 5.2	2159 2.4	2352 1.9	1813 6.1	1816 5.9	1816 5.9	1816 5.9
14 0143 5.0	29 0227 5.6	14 0257 4.3	29 0242 4.1	14 0338 3.9	29 0242 3.8	14 0254 3.7
Th 0848 -0.2	F 0916 -0.9	W 0925 0.4	M 1024 1.0	Tu 0920 5.4	W 0944 2.5	F 1038 8.1
1836 4.2	2159 2.4	2352 1.9	1813 6.1	1816 5.9	1816 5.9	1816 5.9
2153 3.2	2352 1.9	1813 6.1	1813 6.1	1816 5.9	1816 5.9	1816 5.9
15 0634 6.1	30 0634 6.1	15 0634 6.1	30 0634 6.1	15 0634 6.1	30 0634 6.1	15 0634 6.1
Th 1234 4.2	2318 1.9	2352 1.9	1813 6.1	1816 5.9	1816 5.9	1816 5.9
2230 3.0	31 0453 4.4	31 0453 4.4	31 0453 4.4	31 0453 4.4	31 0453 4.4	31 0453 4.4
	1818 5.6	1818 5.6	1818 5.6	1818 5.6	1818 5.6	1818 5.6

SEPTEMBER 2009				OCTOBER 2009				NOVEMBER 2009				DECEMBER 2009			
Day	Time	HL	Day	Time	HL	Day	Time	HL	Day	Time	HL	Day	Time	HL	Day
1	0327 4.8	16 0320 -0.3	1	0309 0.8	16 0309 0.8	1	0326 1.9	19 0403 2.5	1	0330 2.8	16 0319 4.8	1	0330 2.8	16 0319 4.8	1
Tu 0217 4.8	W 0857 5.5	Th 0853 5.2	F 0946 6.2	Su 0946 6.0	W 1017 6.4	Tu 0943 6.6	W 0433 3.2	1	0330 2.8	16 0319 4.8	1	0330 2.8	16 0319 4.8	1	0330 2.8
1	1531 2.8	1531 2.8	1531 2.8	1531 2.8	1531 2.8	1531 2.8	1531 2.8	1	0330 2.8	16 0319 4.8	1	0330 2.8	16 0319 4.8	1	0330 2.8
2	0336 0.3	17 0343 -0.1	2	0340 0.9	17 0330 -1.2	2	0402 2.2	17 0021 4.8	2	0404 4.7	17 0100 4.8	2	0404 4.7	17 0100 4.8	2
W 1355 5.5	Th 1321 5.8	1809 1.1	1809 1.1	1809 1.1	1809 1.1	1809 1.1	1809 1.1	2	0404 4.7	17 0100 4.8	2	0404 4.7	17 0100 4.8	2	0404 4.7
2157 6.3	2201 6.2	2207 5.2	2207 5.2	2207 5.2	2207 5.2	2207 5.2	2207 5.2	2	0404 4.7	17 0100 4.8	2	0404 4.7	17 0100 4.8	2	0404 4.7
3	0425 0.3	18 0433 0.2	3	0410 1.2	18 0430 1.7	3	0404 4.7	18 0110 4.7	3	0403 4.8	18 0137 4.8	3	0403 4.8	18 0137 4.8	3
Th 1114 5.1	F 1124 6.1	Se 1038 5.1	Th 1038 5.1	Th 1038 5.1	Th 1038 5.1	Th 1038 5.1	Th 1038 5.1	3	0403 4.8	18 0137 4.8	3	0403 4.8	18 0137 4.8	3	0403 4.8
1833 2.0	1849 0.6	1643 0.7	1720 -0.6	1643 0.7	1720 -0.6	1643 0.7	1720 -0.6	3	0403 4.8	18 0137 4.8	3	0403 4.8	18 0137 4.8	3	0403 4.8
2237 5.7	2315 5.9	2313 5.4	2313 5.4	2313 5.4	2313 5.4	2313 5.4	2313 5.4	3	0403 4.8	18 0137 4.8	3	0403 4.8	18 0137 4.8	3	0403 4.8
4	0453 0.5	19 0502 0.6	4	0440 1.5	19 0514 5.0	4	0406 4.7	19 0158 4.6	4	0411 4.9	19 0212 4.7	4	0411 4.9	19 0212 4.7	4
F 1336 5.3	Se 1337 6.2	Su 1104 5.8	M 0506 2.1	W 0516 2.8	Th 0613 3.2	F 0555 3.0	Se 0640 3.2	4	0411 4.9	19 0212 4.7	4	0411 4.9	19 0212 4.7	4	0411 4.9
1706 1.7	1726 0.2	2359 5.0	1802 -0.7	1718 0.3	1804 4.9	1804 4.9	1804 4.9	4	0411 4.9	19 0212 4.7	4	0411 4.9	19 0212 4.7	4	0411 4.9
2318 5.6	2359 5.0	1802 -0.7	1802 -0.7	1802 -0.7	1802 -0.7	1802 -0.7	1802 -0.7	4	0411 4.9	19 0212 4.7	4	0411 4.9	19 0212 4.7	4	0411 4.9
5	0520 0.7	20 0508 5.6	5	0511 1.8	20 0108 4.6	5	0515 4.6	20 0246 4.6	5	0520 5.0	20 0246 4.7	5	0520 5.0	20 0246 4.7	5
Sa 1559 5.5	Su 0541 1.2	M 1132 6.0	Tu 0630 2.6	Th 0605 2.0	F 0701 3.4	Se 0652 3.1	Se 0728 3.2	5	0520 5.0	20 0246 4.7	5	0520 5.0	20 0246 4.7	5	0520 5.0
1701 1.4	1210 6.3	1210 6.3	1210 6.3	1210 6.3	1210 6.3	1210 6.3	1210 6.3	5	0520 5.0	20 0246 4.7	5	0520 5.0	20 0246 4.7	5	0520 5.0
2259 5.3	1852 0.0	1852 0.0	1852 0.0	1852 0.0	1852 0.0	1852 0.0	1852 0.0	5	0520 5.0	20 0246 4.7	5	0520 5.0	20 0246 4.7	5	0520 5.0
6	0548 1.1	21 0154 5.2	6	0549 4.8	21 0203 4.6	6	0549 4.6	21 0333 4.5	6	0519 5.1	21 0319 4.9	6	0519 5.1	21 0319 4.9	6
W 1818 1.1	W 0625 5.6	1203 5.1	1336 5.9	1305 5.3	1329 5.3	1329 5.3	1329 5.3	6	0519 5.1	21 0319 4.9	6	0519 5.1	21 0319 4.9	6	0519 5.1
7	0614 5.6	22 0203 4.8	7	0614 4.6	22 0303 4.5	7	0614 4.5	22 0430 4.5	7	0614 4.5	22 0351 4.9	7	0614 4.5	22 0351 4.9	7
M 0616 1.5	Tu 0752 2.3	W 0822 2.6	Th 0723 3.2	Th 0723 3.2	Th 0723 3.2	Th 0723 3.2	Th 0723 3.2	7	0614 4.5	22 0351 4.9	7	0614 4.5	22 0351 4.9	7	0614 4.5
1252 6.8	1261 0.1	1809 -0.2	1809 -0.2	1809 -0.2	1809 -0.2	1809 -0.2	1809 -0.2	7	0614 4.5	22 0351 4.9	7	0614 4.5	22 0351 4.9	7	0614 4.5
1859 0.8	2001 0.1	2019 -0.1	2019 -0.1	2019 -0.1	2019 -0.1	2019 -0.1	2019 -0.1	7	0614 4.5	22 0351 4.9	7	0614 4.5	22 0351 4.9	7	0614 4.5
8	0634 4.7	23 0309 4.5	8	0647 4.4	23 0407 4.4	8	0649 4.8	23 0504 4.6	8	0649 4.8	23 0504 4.6	8	0649 4.8	23 0504 4.6	8
Tu 0850 1.8	W 0708 2.8	Th 0708 2.8	F 0804 5.3	Th 0805 5.0	Th 0805 5.0	Th 0805 5.0	Th 0805 5.0	8	0649 4.8	23 0504 4.6	8	0649 4.8	23 0504 4.6	8	0649 4.8
1322 5.8	1432 5.0	1432 5.0	1405 5.3	1405 5.3	1405 5.3	1405 5.3	1405 5.3	8	0649 4.8	23 0504 4.6	8	0649 4.8	23 0504 4.6	8	0649 4.8
1849 0.5	2405 0.5	2405 0.5	2405 0.5	2405 0.5	2405 0.5	2405 0.5	2405 0.5	8	0649 4.8	23 0504 4.6	8	0649 4.8	23 0504 4.6	8	0649 4.8
9	0634 4.3	24 0424 4.2	9	0400 4.3	24 0514 4.4	9	0544 5.0	24 0542 4.8	9	0543 5.8	24 0500 5.3	9	0543 5.8	24 0500 5.3	9
W 0712 4.7	Th 0601 4.6	F 0601 4.6	Se 0601 4.6	Se 0601 4.6	Se 0601 4.6	Se 0601 4.6	Se 0601 4.6	9	0543 5.8	24 0500 5.3	9	0543 5.8	24 0500 5.3	9	0543 5.8
1450 5.8	1450 5.8	1450 5.8	1450 5.8	1450 5.8	1450 5.8	1450 5.8	1450 5.8	9	0543 5.8	24 0500 5.3	9	0543 5.8	24 0500 5.3	9	0543 5.8
2019 0.5	2159 0.5	2159 0.5	2159 0.5	2159 0.5	2159 0.5	2159 0.5	2159 0.5	9	0543 5.8	24 0500 5.3	9	0543 5.8	24 0500 5.3	9	0543 5.8
10	0619 4.0	25 0616 3.8	10	0616 3.8	25 0612 4.4	10	0632 5.1	25 0617 5.1	10	0639 5.5	25 0631 6.5	10	0639 5.5	25 0631 6.5	10
Th 0912 0.8	F 1029 3.4	Se 0920 3.4	Su 1104 3.3	W 1104 3.3	Th 1104 3.3	Th 1104 3.3	Th 1104 3.3	10	0639 5.5	25 0631 6.5	10	0639 5.5	25 0631 6.5	10	0639 5.5
1447 5.9	1549 2.2	1554 3.1	1607 4.1	1607 4.1	1607 4.1	1607 4.1	1607 4.1	10	0639 5.5	25 0631 6.5	10	0639 5.5	25 0631 6.5	10	0639 5.5
2147 0.4	2233 -0.1	2233 -0.1	2233 -0.1	2233 -0.1	2233 -0.1	2233 -0.1	2233 -0.1	10	0639 5.5	25 0631 6.5	10	0639 5.5	25 0631 6.5	10	0639 5.5
11	0620 3.9	26 0735 4.3	11	0624 4.5	26 0656 4.6	11	0608 0.5	26 0649 5.2	11	0632 1.7	26 0611 5.8	11	0632 1.7	26 0611 5.8	11
F 0814 3.2	Se 1051 4.3	M 1153 4.3	W 1213 3.2	Th 1213 3.2	Th 1213 3.2	Th 1213 3.2	Th 1213 3.2	11	0632 1.7	26 0611 5.8	11	0632 1.7	26 0611 5.8	11	0632 1.7
1545 5.9	1655 5.1	1645 5.0	1645 5.0	1645 5.0	1645 5.0	1645 5.0	1645 5.0	11	0632 1.7	26 0611 5.8	11	0632 1.7	26 0611 5.8	11	0632 1.7
2300 0.3	2345 0.3	2345 0.3	2345 0.3	2345 0.3	2345 0.3	2345 0.3	2345 0.3	11	0632 1.7	26 0611 5.8	11	0632 1.7	26 0611 5.8	11	0632 1.7
12	0650 4.1	27 0615 0.7	12	0717 4.9	27 0606 0.8	12	0701 0.9	27 0633 1.7	12	0717 3.2	27 0623 2.7	12	0717 3.2	27 0623 2.7	12
Se 0729 3.4	Su 0757 4.5	M 121													







VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.

Channel 9 – Communications between boats and ship-to-coast.

Channel 13 – Navigation purposes at bridges, locks, and harbors.

Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other

vessels. Contact the other vessel, agree to another channel, and then switch.

Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.

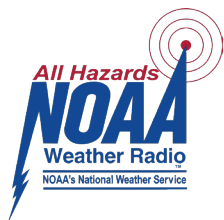
Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

Getting and Giving Help — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!



NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.

<http://www.nws.noaa.gov/nwr/>

Quick References

Nautical chart related products and information	—	http://www.nauticalcharts.noaa.gov
Online chart viewer	—	http://www.nauticalcharts.noaa.gov/mcd/NOAAChartViewer.html
Report a chart discrepancy	—	http://ocsddata.ncd.noaa.gov/idrs/discrepancy.aspx
Chart and chart related inquiries and comments	—	http://ocsddata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs
Chart updates (LNM and NM corrections)	—	http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html
Coast Pilot online	—	http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm
Tides and Currents	—	http://tidesandcurrents.noaa.gov
Marine Forecasts	—	http://www.nws.noaa.gov/om/marine/home.htm
National Data Buoy Center	—	http://www.ndbc.noaa.gov/
NowCoast web portal for coastal conditions	—	http://www.nowcoast.noaa.gov/
National Weather Service	—	http://www.weather.gov/
National Hurricane Center	—	http://www.nhc.noaa.gov/
Pacific Tsunami Warning Center	—	http://ptwc.weather.gov/
Contact Us	—	http://www.nauticalcharts.noaa.gov/staff/contact.htm



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